

FIG. 1A

>SGPR397_SEQID_1
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 AGAGGAAGCATATGCACCTGAAGAAATATCCTATCAACTTAAGGTGGACCTGTGGCAGCCAGCAGTATCTCCTA
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 ATTGGTCTGCCCTTTGTGAGTGGTTGTAAAGAGCTCTTCTAACATATAAGAGTGACCCAGCCATGAGAAAAA
 TGCTGAATCATCTATATTTCTATATCATGCTGTGTTAACGTCGATGGATACCATTTAGTTGGACCAATGATCGA
 TTTTGGAGAAAAACAAGGTCAAGGAACTCAAGGTTTCGCTGCCGTGGAGTGGATGCCAATAGAAACTGGAAAGT
 GAAGTGGTGTGTAAGTTTGGGACCAACTGGGATCCAGATCCAAAGGTTTCTGCAGGTTTACTCTGCAAAATAT
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 CACCCATGGGAGAGATCTATGAGTGGATGAGAGAGATCAGTGAGAAGTACAAGGAAGTGGTGACACAGCATTT
 CCTAGGAGTGACCTATGAGACCCACCCCATGTTATCTGAAGATCAGCCACCATCTGTTAATCCCAAGAAAAT
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 CCAGCCCACTGTGAGGAGACCATGGAGGCTGTGCTGTCAGTCTGATGATGTATGCGAAACACTGGCACT
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FIG. 1D

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FIG. 1E

FIG. 1F

TACAAACGCATGGAACACAGAGGAAGAAATGGCAGAGAAATACAAATTTGATGTTTCGTCAGAGTTACTAGAGTGG
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CGTACTGAAAAGAGGAAAGAAATGATATCAACTGGCTCAGAAATGAATGAAGATTACCTTAAGGAAAATGATTTCAT
CATCGAACACAAGGCCATGACAGATCCCTCCAGAAAAGTATTAACCAGCAGTAGAGAAAAGCAGCTGAGTTTGA

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 GCGGGGAAGGTGGACGCCGCTGGGAAGGTGGAGACGGCGGAGGTTCCGGGCCCGCGGTGAGCTCAAGCT
 GGAGCCGAACCCGAGCCGTCGCGGAGCGGAGCAGGAGCCGAAGCAGGAGCTGAGGATGAGAACCAG
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 CCGATCCCTCTCCGCTCGAGTCTGCGCCGCGCCGACCCCGGCCCGGCCCGGCCCTGGGGCGGATGCCTG
 CCCGCGCAGCTAGGCCCGGCCCGCCCGCCCGGCCCGGCCCGGCCCTGGGGCGGATGCCTG
 GATGTGATTTGCCGTGGGCCACCGAGCTGTTCTACGTGAACAGCTTTAAGGTGGAGAACTGGAGGC
 AGGAAGTGGGTTATCTACAGTGTCTGTTGTTGTAACCCAGAGACCAGGAAAGCAAGGCAAGTCC
 TGCATCTGCCATGTGTGGCACCCATCTGAACAGACTCCACTTTCCTTCTGCTCTTCTTGGCTGCTTC
 ACGGAGAAACACATTACGAGCAGCAGAGACGAAACACACAACTTAGCAGTAGACCTGTATTACGGAGGTAT
 ATACTGCTTTATGTGAAGACTATGTATATGACAAAGACATTGAGCAATTGCCAAGAGAGCAAGGAGAAGC
 TTTGAAATTACAAGCCTCCACCTCAACAGAGGTTTCTACCCAGCAGTGTTCAGTGCCAGGCTTGGTGAGAAAT
 CCCAACCTGGGAACAACCAACAGAAATTAGAAGTGTGGGCGACACCCGAGGAGAGAGAAATCACCTCCA
 GCTTTACGATCGGTTTAAGAGACTCATCAATCTTGGCAACAGTGTCTTTATGAAGTGCATTGTCCAGGCCCTCA
 CCCACACGCCGATCTGAGAGATTTCTTCTCTGACAGGCACCGATGTGAGATGCCGAGTCCCGAGTTGTGT
 CTGGTCTGTGAGATGTCGCTGTTTCGGGAGTTGTTCTGGAACCCGCTCTCCTCATGTGCCCTATAAGTTA
 CTGCACCTGTGTGATACATGCCCCGCTATTAGCAGGTTACAGGCAACAGGATGCCACGAGTTCCTCATTGC
 AGCGTTAGATGTCCTGCACAGGCACCTGCAAGGTGATGTGCGGAAGCGGCCAACAAATCCCAACCACTGTA
 ACTGCATCATAGACCAATCTTCACAGGTGGCCTGCAGTCTGATGTCACCTGTCAAGCCTGCCATGGCGTCTCCA

CCACGATAGACCCATGCTGGGACATTAGTTGGACTTGCCTGGCTCTTGACCTCCTTCTGCCCCATGAGCCCA
GGGAGGAGAGCAGTGTGAACGGGAAAGCCACATACCAGGAATCACCACTCACGGACTGCTTGGGAGGT
TTACGAGGCCAGAGCACTTAGGAAGCAGTGCCAAAATCAAATGTGGTAGTTGCCAAAGCTACCAGGAATCTACC
AAACAGCTCACAATGAATAATTACCTGTGCTGCTTTTCAATTTCAACGGTTTGAACATTAGCGGAACAGA
GGCGCAAGATCACTACATACATTTCTTCTGAGCTGGATATGACGCCGTTTATGGCCTCAAGTAAAGAGA
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TGTGATGATGCCGTCACTAAGGCCAGTATTAGGACGTAAGGACGTAAGGATTTACTGTTCTATCAC
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AGAGAGCAATAGCTGAGAACTCTGTGTCAGTTTGCTCAGAATGTTTAGAAGAAAGAGATTCTATGATGGCAGC
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TCAAGATTTTCTCCTCAGACTCTCAGCTGGACCCATTGGTGGAACTTTCAAGGCCCTGGACCACTGACCT
CAGCCTTGTTCTCCTGTTTCTCACAGCATGAAGGAGACTGAAAAGGACCACTTCTCCTAAAGTTCTTTTAAATCA
GCTTTGTCAGAAAGGCACCTCGATTTAAAGATTTCCAGCAACAGGACAGTCAGGAGCTTCTTCAATTATCTTCTGGAT
GCAGTGAGGACAGAAACAAAGCGAATACAAGCTAGCATTCTAAAGCATTAAACACCCAACTACTAAACT
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GAACCTCGTTTGAGCAGCACTGTAACTGGGATCAAGATTTTACAGAGAAAAATCAGCCACTAAATATTTCAAATA
 ATTTATGTTTTTATAGAGGGAGCAATTTGAGGTCTTATAGTCCCAAAATGCTTTTCAGACCCCTTCTCAGAGCTA
 TATAACTACTTCTAAAGAAATGTTCAATTCAGTCTCTCTACCAAGTTTACATCTATGGAATTAATGAGGGAATA
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 ATCTCCACAGCCCTCATGGCATAAGCCCGAGGGCTTAAAGCCAGCAGGATACCCAAGAGTTCCTGACATTCCT
 TATGGAGCGGCTACACCTTGAAATCAACCACGGAGGCGGGGCTCCACAGTCCCTGCCCATGGTCCAGC
 TCCCTCTCCACCCCAAGGGAGTCTCTGCTAAAGAGTCTGAGTTAAATGATGCTGACTGGGCCAACCTA
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 TCTCAAGTGCCAGGCTGTGGGTACCACTCTATGACCTTCAAGGTTTTTTTTTTGTGACCTCTCCCTGACCATC
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 GCTTGACAGCGGCCACCTTCTCACTCTGTCTTCACACAGTCTCCTTCTCTGGCATGTCTGGATCTCTCTCTTC

FIG. 1K

TTCTATGGACACCAGTCATATTGGATGAAGGCCACCTTAATGACCTCATTTAAGGGAGGGCCTGTGACACAA
 ATGGCCAGAGTTTTACTGGGTTTTCTGCTGGAGGAACTTGCTGCTTTAGAAATGCTGCTGATGGACCA
 GCACCAAGGACGTTCTTCAGAAAGAAAGCTGCTCTTTCCCTGTTCTCTTACATTTTGCATAAGGCAGGTA
 AACTCTCCAGCCTGATGCTCATGGATTTCTAGTGAAGAAAGTTCTGCTCAACAAGGGGCATCGTGTTCAT
 GGAACCAAGACAGCTGGGTGGAGGGCTCCCTGTCAAACTCCAACAGCCTGTGCACCTGGAGGAATGAAC
 AGTGGGATGGAGCCACAGAGTCTGCACCAATTTGCAGCAGGGAAGGCTGGCCCTCCTCTTCTGTGTGCAA
 CCTGAGATTCAACTACGAGTTTACAATTTGAGGAAGAGCTTTGGTCCAGGGCAGGCTTGGGAAGAAAGTG
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 AATTGTTGCAGAGTTGACACCTCCAAAATTGTCTTTGTTTCTGAACACAGTTCAGAGTTCAGTACTTCCTACT
 TCCCTGTCTCAGTTTTCTCAATGATTTCTCAACCAGAGGAAGCAATACCTCTCAATCCCTGCTCCCGGTTCC
 CCAAGGACAAATTCATTCCTCAAGGACAAATTTGTCCCAAGGACAAATGAAGGTGATATTGTCCTGCTGACA
 ATGTATGAACCTAGACCGATTATTT

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 GAAGATATATTGAAGAGCATGCACCTCAAGCACCTTCAAGAAAGCAGTCATCCTGTTGCATTGGAGGTGAATGAGA
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 GGTGATGATTTCTATTCTTACATGACGGTGCCCAATCTCTGCTTCAAAGTGAAGATCAACTGTATCTGCTCTT
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 GTCATCAGGACTAAGTGGTGGAGCATCAAAAGGTAGAAAGATGGAACCTTATTCAGCCAAAGGAGCCAACTTCACA
 GTACATTTCTCTTTGTATGAATTGCATACCTTTGTTCCAAAGTCATGTGGTCTGGAAAGTGGCGTTGGTCTCACCA
 TTTGCTATGCTACACTCAGTGTGGAGACTCATTCCTGCTTTCGTTGTTACGCCCAACAAAGACGCTCAGGAATTT
 CTTTGTGAACCTTTTAGATAAAATACAAACGTGAATTAGAGACAACTGGTACCAGTTTACCAGCTCTTATCCCCACTT

FIG. 1L

CTCAAGGAAACTCATCAACAAGTTCTGAATGTTGTAATAACATTTTTCATGGACAACCTTCTTAGTCAGGTTACA
TGCTTTGCATGTGACAACAAATCAATACCATAGAACCTTTCTGGGACTTGTGACATTTCCAGAAAGGTATC
AATGCAGTGAAAGATATTGCTTCCAGCCATGTCTGTTACTGAAATGTTGGCCAAATTTACAGAAACTGAAG
CTTTAGAAGGAAAAATCTACGTATGTGACCCAGTGTAACTCAAGCGTAGAAGGTTTTCTCCAAACCAGTTGTACT
CACAGAGCCAGAAACCTTATGATATGCCACCTACCTCAGGTTCTCAGACTGCACCTCAAAACGATTACAGGTG
GTCAGGACGTAATAACCGAGAGAAGATTGGTGTTCATGTTGGCTTTGAGGAAATCTTAACATGGAGCCCTATTG
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ATACCTCGTCTAATGAAATCCTTAGCTGA

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AGGCATTGACTTCTGCCGTCCATTCGGGAGAAATGTGTGGCATACAAGGCCAGCAAAAGAAAGGAAAAAC
TTGCTGACGTGCCCTGGCGACCTTTTCCACAGCATTGCCACAGAAAGAAAGGTTGGCGTCATCCCAACCAA
GAAGTTCAATTTCAAGGCTGAGAAAAAGAGAAATGATCTCTTTGATAACTACATGCAGCAGGATGCTCATGAATTTTA

FIG. 1M

AATTATTTGCTAAACACTATTGCGGACATCCTTCAGGAGGAGAAACAGGAAAAACAATAATGGAATTAATAA
 ATGGCAACATGAACGAACCTGCGGAAAAATAATAACAGAACTCACCTGGTCCATGAGATTTTTCAGGGAACGC
 TTACCAATGAACCTCGATGCTTGAACCTGTGAACCTGTTAGTAGCAAGATGAAGATTTTCTTGACCTTTCTGTTGA
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 ATATTATTGTGAACATGCTGCAGCAACAAAGAGCCAGAAAAAGGATGAGGTTAAAAAGCTGCCCATGGTCTT
 GGCCCTGCACCTAAAGCGGTTCAAGTACATGAGCAGCTGCGCAGATACACCAAGCTGTCTTACCGTGTGGTCT
 TCCCTCTGGAACCTCCGGCTCTTCAACACCTCCAGTGCAGTGAACCTGGACCGCATGTATGACTTGGTTGCG
 GTGGTGGTTCACTGTGGCAGTGGTCTAATCGTGGGCATTATACACTATTGTGAAAAGTCACGGCTTCTGGCTT
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 GCTGGAGGATCCAGTGTGCGGGAAGACAGTGTTCATGACAGGTTTATAGGTCGCTTCCAAGAGAAGGTTCTG
 TGGGTTCTACCACTGATTATGTGAGCCAAAGCTACTCCTACTCATCTATTTTGAATAAATCAGAACTGGATATGT
 GGGACTAGTAAACCAAGCAATGACTTGTCTATTTGAATAGCCTTTGGCAACACCTTTTATGACTCCTGAATTTAGG
 AATGCATTATATAAGTGGGAATTTGAAGAACTCTGAAGAAGATCCAGTGACAAGTATTCATACCACTTCAAAGGC
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 CTGTTATGGCTCATTTCTGGAGCGCTGCTGGTGGTCATTATTATGCAATGATAAAGTCAATTCAGTGATGAGCAGT
 GGTACAGCTTCGATGATCAACATGTACGAGGATAACACAAGAGGACATTAAAGAAAACACATGGTGGATCTTCAG
 GAAGCAGAGGATATTATCTAGTGTCTTCGCAAGTTCCACAAATGCATATATGCTGATCTATAGACTGAAGGATCC
 AGCCAGAAATGCAAAATTTCTAGAAAGTGGGTGAATACCCAGAACATATTAAAAACTTGTGTGCAGAAAAGAGAGAGA

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 GTTTGATCTGCTGTTGGAGACGAGAAGCCTGATCAGGTTTTCCAATCTTATAAACCTGGAGAAAGTATGTTGAA
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 TTGTTGAAGCTCCGAGACTTTGGATTACAGATGGCTTTGAGACTCTCATTTATGGAAGCTCCTGGATCGGC
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 CAGCATCAGTGGATAATAGAGAACTTGAACAGCATATTCAGACTTCTGATCCAGAAAAATTTTCAGTCTGAAGAACG
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 GAATCCTAAAGTTTCTACCTGAATGTCTGGCCTTTTATATCTGTGATGATGGTGGTGCATATTTTATAGGGAT
 AAAACAGAGAAATTAATGGAAATTGACAGATGAGCAAGAAATGAAGTATGAAAAAGAAAGCAGTCCAGTCCAG
 AAGACTGGACATCGTGTAAACATACTACCTCGTAAAGAGAAAGCACTAAAAATATATCTGGATGGAGCACCAAAT
 AAAGATCTGACTCAAGACTGA

FIG. 1P

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 ATGGGTGCCAAGGAGTCACGGATCGGATTCTCAGCTACGAGGAGGCGCTGAGGAGAGTTACAGATGTAGAGC
 TAAACGACTGAAGGATGCTTTCAAGAGGACCTGTGGACTCTCATATTACATGGGCCAGCAGCTGCTTCATCCGGG
 AAGTGCTTGGGATGGAGTGCTCCAAAGTTGCTGAGGTGATTACTGTTCTTTGGTGAACATCCAAAGGG
 CTGCACCTCAATAATTAAATAGTTGGACTTGTCTCTTACAAGAGGCAAGATGAAGAGAAAGCAAAATACATTT
 TTAGTCTTTTTCAAGTGAATCTGGGAATCTGTTATACGGGAAGAAATGGAAGAAATGCTCCACGTGGTGGATG
 GTAAAGTCCAGATACACTCAGGAAGTGTTCTCAGAGGGTGAAAGGTAAACTATGAAAGTTTAGAAATTGGC
 TTTTCTAAACAAGATGCTTTTACTTCTCTCGATGGCTTCTATCTGGAGGTGTGTATGTTACCCCTCACTGATGAT
 AGTGATACTCCTACTTTCTACCAACTCTGGCTGGAGTCACACATTTGGAGGAATCAGACATCATTGATCTTGAGA
 AACGCTATTGGTTATTGAAGGCTCAATCCCGACTGGACGATTTGATTTAGAGACATTTGGCCCATTTGGTTTCAC
 CACCTATTCTCCATCTCTAAGTGAAGTTTGTAAATGCTTTTGTATGAAATCGTGACAATCACATAGATTTTAAG
 GAGATATCTGTGGTTATCAGCCTGTTGCAGGGGACCCCTGGCTGAAAGACAAATTTTGTCTCAAGGTATTT
 GATGTTGACCGTGATGGAGTTCTCTCCAGGGTTGAACCTGAGAGACATGGTGGTTGCACCTTTTAGAAGCTCGAA
 GGACAACCGCACTGATGATATTCTGAATTACATATGGATCTCTGATATTGTAGAAGGCATACCTGAATGCACAT
 GACACCACAAAGATGGTCACTTACTCTGGAAGACTATCAGATCTGGAGTGTGAAAATGTTCTTGCCAATGAG
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 TCTCCGAATGCACCTTTAAAGCGGTTATTAGCCTATACAGGCTGTTTAGTCGAATGCAGACCATCAAGGAAAT
 CACGAATATCTATCTCAAGGCTGCGCATTAAGAGGGAAGATATGCGCCTGTGGCTATACAACAGTGAGAACTAC
 CTTACTCTTCTGGATGATGAGGATCATAAATTGGAATATTTGAAATCCAGGATGAACAACACCTGGTAATTGAAG
 TTCGCAACAAGATATGAGTTGGCCTGAGGAGATGCTTTTATAGCAAATAGTAGTAAATAGATAGACACAAGGT
 TCCCACAGAAAAGGAGGCCACAGGTCTAAGCAATCTGGGAAACACATGCTTCATGAACTCAAGCATCCAGTGTG

FIG. 1R

CCCGATGAAATTGACACCGACTCTGCCTACATTCTTTTCTATGAGCAGCAGGGATAGACTATGCACAATTTCT
GCCAAAGACTGATGGCAAAAAGATGGCAGACACACAAGCAGTATGGATGAAGACTTTGAGTCTGATTACAAAAAGTA
CTGTGTGTTACAGTAA

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ATGGACAAGATCCTGGAGGGCCTTGTGAGTTCCTCGCATCCCTGCCCTCAAGCGGGTGATTGTGCGGAAGG
TGGTGAATCGCGGAGCACTGGCTAGACGAGGCGCAGTGCAGGCCATGTTTGACCTGACGACCCGGCTCAT
CCTGAGGGCCAGGACCCCTTCCAGCGCAGGTGGGCCACCAAGTGTGAGGCCCTACGCACGATACCACCG
GCCAGAGTTCGAGTCCCTTCTTCAACAAGACCTTCGTGTTGGCCCTCCCTTCATCAGGGCTACCACCTCTCTGGACAG
GAAGGATGTAGCCATCCTGGACTACATTACAAACGGCCTGAAGCTGATTATGAGCTGTCCGTCGGTGTGGATC
TCTTAGCCTCCTGCAGGTAGAGGTGTTACGGATGGTGTGAGAGCGCGAGCTGTGTGCCCGACT
GAGCGACCTTCTGACCGACTTTGTCAATGCATCCCAAGGGGAAATTGTCCATCACGTTCTGTCAACAGCTGGT
TCGAACGATAGGCCATTTCCAGTGGTGTCCACCCAGGAAGAGAGCTGCGGGAATATGTCTCCAGGTGACAA
AAGTGAGTAACCTTGCTGCAGAACATCTGGAAGCGCGAGCCTGCCACACTACTGCCCTCCCTGCAAGAAGTTTTTG
CAAGCATCTCTCCACAGATGCATCATTTGAACCTTCTGTAGCATTTGCAAGCCTTTGTGCAGCATATTCCTCTTCA
GATGATTACAGTTCTCATCAGGAGCCTTACTACGGATCCAAATGTAAAGATGCAAGTATGACCCAAAGCCCTTTG
CAGAAATGATTGACTGGCTATCCTGGCCATTGGCTCAGCATGTGGATACATGGGTAATTGCACCTCCTGAAAGGACT
GGCAGCTGTCCAGAAGTTTACTATTTGATAGATGTTACTTTGCTGAAATAGAACTGGTTTTTAATCGACTTTGGT
TTCTCTTGTGAGACCTGGTGTCTTGCAGTTCTTCTCACATGCTGCTTAGCTTTCAGCATTCCTCCAGAGGCGTT
CCATTTGATTGTTCCCTCATGTGGTTAATTTGGTTTCATCTTTCAAAATGATGGTCTGCCCTTCAAGTACAGCCTTCT
TAGTACAAATTACAGAAATTGATACACTGTATGATGATCATTAATCTGGATTTCCAGATCTCTATGAACCTATTCTG
GAGGCAATAAAGGATTTTCCCTAAGCCCAAGTGAAGAGAAGATTAAAGTTAAATCTCAATCAAGTGCCCTGGACTTCTC
AATCCAATTCCTTGGCGCTTGTCTGTCTAGACTTTCTGGAATCTGAAACTGGGAAACTGGTCTTATTAAACCT
AGGAATACATGTTATATGAACAGTGTATACAAGCCTTGTATGCCCACAGATTTCAGGAGACAAGTATTATCT
TTAAATCTAAATGGGTGCAATTCATTAAATGAAAAAATTACAGCATCTTTTGGCCTTCTGCCCCATACACAGAGGG
AAGCATACGCACCTCGGATATCTTTGAGGCTTCCAGACCTCCATGGTTTACTCCCAGATCACAGCAAGACTGTT
CTGAATACCTCAGATTTCTCCTTGACAGGCTCCATGAAGAAGAAAGATCTTGAAAGTTCAGGCCCTCACACAAGC
CTTCTGAAATCTGGAATGCAGTGAACCTCTTTACAGGAAGTAGCTAGTAAAGCAGCAGTACTAACAGAGACCC
CTCGTACAAGTGACGGTGAGAAGACTTTAATAGAAAAAATGTTTGGAGGAAAACTACGAACTCACATACGTTGTTT
GAACTGCAGGAGTACCTCACAAAAAGTGAAGCCTTTACAGATCTTTGCTTTCGCTTTTGTCTTCTCTCTCTTTG
GAAAAATGCTGTCTCAAGATCCAGCATCATCACCCAGTATACAAGATGGTGTCTAATGCAAGCCCTCTGTACCC
GGTCCCTTCAGAAGAACCCAGTAGTTTATAATCCAACAACAGCTGCCTTCATCTGTGACTCAGTGTGTAATGAAAAA

FIG. 1S

CCATAGGCAGTCCTCCTAATGAGTTTACTGTTCTGAAACACACTTCTGTCCTAACGAATCTAACAGATTCTTGT
 TAATAAGATGTACCTCAGAAACCAGGAGGTGAACCCACACCTTCAGTAACTGACTTACTAAATTATTTTTGGCT
 CCAGAGATTCTTACTGGTGATAACCAATATTATTGTGAAACTGTGCTCTCTGCAAAATGCTGAGAAACTATGC
 AAATCACGGAGGAACCTGAATACCTTATTCTTACTCTCCTGAGATTTTCATATGATCAGAAGTATCATGTGAGAAG
 GAAAATTTAGACAAATGTATCAGTCCACTGGTTTTGGAGTTGCCAGTTAAAGAAATTACTTCTTCTTCAATTGT
 CAGAAAGTTGGTCTGTAGATGTTGACTTCAGTTCAGTATGAGAACCTTGTCTAAAAAATTAAAGCCTTCAGGGAC
 TGATGAAGCTTCCCTGCACAAAATTGGTGCCCTATCTATTAAGTTCCGTTGTGGTTCACTCTGGTATATCCTCTGAA
 AGTGGCATTACTATTCTTATGCCAGAAATATCACAAAGTACAGACTCTTCATATCAGATGTACCCAGCTCGAGG
 CTCCTGGCATTAGCATCCTCCAGAGTCATTTACTAGGGAGAGATAGTCCAGTGCAGTTTTTGAACAGGATTTGG
 AAAATAAGGAAATGTCAAAGAATGGTTTTTATTAATGACAGTAGAGTGACATTTACTTCAATTCAGTCAGTCCAG
 AAAATTACGAGCAGGTTCCAAAGGACACAGCTTATGTGCTTTGTATAAAACAGCATAGTACTAATGTGTTAA
 GTGGTAATAACCCCAACCAAGTGGACTCTGGATAAATGGAGACCCACCTCTACAGAAAGAACTTATGGATGCTATAA
 CAAAGACAAATAAACTATATTTACAGGAACAAGAGTTGAATGCTCGAGCCCGGCCCTCCAAGCTGCATCTGCTT
 CATGTTCAATTCGGCCCAATGGATTTGATGACAACGACCCACCCAGGAAGCTGTGGACCAACTGGTGGAGGGGT
 GGAGGAGGATTAATACAGTTGGCAGACTCGTATTTTGA

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ATGGCCCCGCGGCTGCAGCTGGAGAAGGCGGCTGGCGCTGGCGGAGACGGTGGCGCCGAGGAGGTGTC
 GCAGGAGCATATCGAGACCGCTTACCGCATCTGGCTGGAGCCCTGCATTCGGCGGTGTGCAGACGAACTGC
 AAAGGAAATCCGAATTGCTTGGTTGGTATTGGTGAGCATAATTTGGTTAGGAGAAATAGATGAAAATAGTTTTTCATA
 ACATCGATGATCCCAACTGTGAGAGGAGAAAAGAACTCATTTGTGGCCTGACTAACCTTGGAGCCACTTGT
 ATGTCAACACATTTCTCAAGTGTGTTTCTCAACTTGGAGCTTCGGCAGGCACCTACTTATGTCCAAGCACTTG
 TAGTGACTACATGCTGGGAGACGGCATCCAAGAAAGAAAGATTATGAGCCTCAAACAATTTGTGAGCATCTCCA
 GTACTTGTTCCTTGTGCAAAACAGTAATAGGCGATACATTGATCCATCAGGATTTGTAAAGCCTTGGGCCTG
 GACACTGGACAACAGCAGGATGCTCAAGAAATTTTCAAGCTCTTTATGTCTCTATTGGAAGATACTTTGTCTAAC
 AAAAGAAATCCAGATGTGCGCAATATTGTTCAACAGCAGTTCTGTGGAGAAATATGCCTATGTAACTGTTTGCACCCA
 GTGTGGCAGAGAGTCTAAGCTTTTGTCAAAATTTTATGAGCTGGAGTTAAATATCCAAGGCCACAAACAGTTAAACA
 GATTGTATCTCGGAATTTTGAAGGAAGAAAATTAGAAGGAGACAATCGCTATTTTTCGAGAACTGTCAAAGCA
 AACAGAAATGCAACAAGAAAGATTGCACTTCTTAGCCTTCCCTTGCACCTGAACCTGCAGCTAATGCGTTTTGTCTT
 TGACAGGCAAACTGGACATAAGAAAAGCTGAATACCTACATTGGCTTCTCAGAAAATTTTGATATGGAGCCTTAT
 GTGGAACATAAAGGTGGTCCCTACGTGTATGAACCTCAGCGCAGTCCCTCATACACAGAGGAGTGAGTGCTTATTCT
 GGCCACTACATCGCCCAAGTGAAGATCCACAGTCTGGTGAATGGTATAAGTTTATGATGAAGACATAGAAAAG

FIG. 17

ATGAGGGGAAGAAATTACAACTAGGGATTGAGGAAGATCTAGAACCCTTCTAAGTCTCAGACACGTAAACCCAAG
TGTGGCAAGGAACCTCATTGCTCTCGAATGCATATATGTTGGTTATAGACTGCAAACTCAAGAAAAGCCCAACA
CTACTGTTCAAGTCCAGCCTTTCTCAAGAGCTGGTAGATCGGGATAATCCAAATTTGAGGAGTGGTGATTGA
AATGGCTGAGATGCGTAAGCAAAAGTGTGGATAAAGGAAACCAACGAAAGAGGTTAAGGAGCTGTACCAAA
GGTTACCTGCTGGAGCTGAGCCCTATGAGTTTGTCTCTCTGGAATGGCTGCAAAAGTGGTTGGATGAATCAACAC
CTACCAAACCTATTGATAATCACGCTTGCCCTGTGTTCCCATGACAAGCTTCAACCGGATAAAATATCAATTATGAA
GAGGATATCTGAATATGCAGCTGACATTTTCTATAGTATGAGGAGGTCCAAGACTAACTGTGAAAGCCCT
GTGAAGGAATGTGTAGTAACGTTGTGCGATATTGCGTCTGAAGAACCACTAAATGAAGATTATAAACTGTT
AATAATCTGCTGAAGCAGCAGTAAAGGGCGATGATTTTGGTGGGAAGTCTCTCTTGGGAGTTGGCGCA
GCTAGCTCTTGAACAGCTGGATGAGCAAGATGGTATGCAGAACAAAGCAACGAAAGATGAACGGTAGCACCT
TAAATAAGATGAATCAAGGAAGAAAGAAAGAGAGGAAATTAATTTAATGAAGATATTCTGTGTCACACA
TGGTGAGTTATGCATATCTGAAAATGAAGAAGGCTTGTCTTAAAGAGGCTTGGAGCAAACTGCAGCAGTACTT
TCCAAAGGCTCTGAGTTTCCAAGTTACAAAGAGTGTCTTACAGTCAAGATTTTAGAAAGAGAGGGGAAGA
AAATGAAGCCTTACATAAGATGATTGCAACGAGCAAAAGACTTCTCTCCAAATTTGTTCCAGGATAAAACAGA
CCGTGCTCAGTAACCTGGCCAGAGGATACGGATGTCTCTACATCGTGTCTCAGTTCTTTGTAGAGAGTGGCG
GAAATTTGTTAGAAAGCCTACAAGATGCAGCCCTGTGTCTCAGTTGGGAACAGTGTCTTTTGTCTCCACCGG
GGCCTCATGTTTACATTTGCTTCCATGACCAAGAAAGATTCTAAACTTATAGCTCTCATATGCCCCAGTGAGTGG
CAAATGATACAAAAGCTCTTTGTTGGATCATGTAAATTAATCAAGAGATTTGAAGTGGGAGATGTAACCCCTT
CAGAAACACAGTATATTCTGAGCCCAACTCTGTCCAGATGCAGAGAGGCTTATTGTGTACGACGAGAGGG
ACCTGCGTGAATACACTCAAGCCACCATCTATGTCCATAAAGTTGTGGATAATAAAAGGTGATGAAGGATTCCG
CTCCGGAACCTGAATGTGAGTAGTTCTGAACAGAGGAGGACAAAGGAAGCTAAACCAGATGGAGAAAAAGAT
CCAGATTTTAATCAAGCAATGGTGAACAAAGCGGCAAAAGATATCCCATCAAAATTATAGCCTATCAAAAGC
AAGTTATTCGCCGAAGTATCGACATAGAAAAGTTCTGTGTGAGAAAGCACTTCTCGTTCTGCTAATCAGACGT
TAAAGAAATTGAAAATTCAGATCATGCAATTTTTCAGTTGCTCTTTTGACCAGAAATTTGTCAATTGATGGAAG
ATTTTAAGTGATGACTGTGCCACCCTAGGCACCCTTGGCGTCATTCCTGAATCTGTCAATTTTATTGAAGGCTGATG
AACCAATTGCAGATTATGCTGCAATGGATGATGTCTCATGCAAGTTTGTATGCCAGAAAGGGTTTAAAGGTACTG
GTCTTCTGGACATTAA

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ATGCTGAGCTCCGGCCGAGCGCGGCGATGACCGCGGCCGACAGGGCCATCCAGCGCTTCTCGGACCGGG
GCGGCCGTGAGATATAAGTCAAGAACTGGGAGTTATAGGTGGAATTTGCTGCTGCTCTTGCAGCAGGAAT
ATATGTTATTTGGGTCCCATACAGAAAGAAAGAGCGTAGAAAAGGGCTTGTGCCTGGCCTTGTAAATTTAGG

FIG. 1U

GAACACCTGCTTCATGAACCTCCCTGCTACAAGGCTGTCTGCTGCTCTTTCATCAGGTGGCTGAAGAGTT
CACCTCCAGTACTCCAGGGATCAGAAGGAGCCCCCTCACACCATTTATCTTAACACTCTTGCACCTTCT
GAAAGCCTTGCTCTGCCAAGAAGTTACTGATGATGAGGTCTTAGATGCAAGCTGCTTGTGGATGTCTTAAGAAT
GTACAGATGGCAGATCTCATATTTGAAGAACAGGATGCTCACGAATTATTCATGTCTATTACCTCGTCATTGGAA
GATGAGCGAGACCGCAGCTGGGTACACATTTGTTGATGTGCAATTCCTGGAGCAGCAGTCAGAAATAAC
TCCCAACAATAACCTGCCGACAGAGGGTCACTCACCCACATCCATCACTGGAAGTCTCAACATCCTTT
TCATGGAAGACTCACTAGTAATATGCTGCAACACTGTGAACACAGAGTCTGTTGATTTGATACCTTTGAT
AGCCTTTCATAAGTATTCAGCCGCCACATGGGTCAACCATGACCTGGACCACTGCCTTACCACTTCATC
TCATCAGAAATCAGTGCAGGATGTTGTGTGACAACTGTACAAGATTGAAGCCAAGGGAACGTTGAACGGGA
AAAGGTGGAACACCAGAGGACACTTTTGTAAACAGTTAAACTAGGGAAGTCCCTCAGTGTCTCTGCATCCA
CCTACAGCGGCTGAGCTGCTCCAGCCACGGCAGCTCTGAAGCGGATGAGCACGTGCAATGAGTTCAATGAGTTC
CTGATGATGGACATTTACAAGTACCACCTCTTGGACATAAACCTAGTCAACACAACCTAAACTGAACAAGAAC
CCAGGGCTTACACTGGAGCTGAGGATGGCCGGAGCCCCACACAGTTCTGAATCAGCCAGGGGCCCCC
AAACACAGATTTTATGAATGGCGCTGTCCCATCTTTATTGCCAACGCTGTACGCCGATGCCCTTCCCT
CTCCAGTTGTTCCGACTACAGTCTCCACATACCTCTTCCGGCTGATGGCAGTTGTCGTCCACCATGGAGA
CATGCACTCTGGACACTTTGTCACTTACCAGCGTCCCACTTCTGCCAGGAACCTCTCTCAACTAGCAATCA
GTGGCTGTGGGTCTCCGATGACACTGTCCGAAGGCCAGCCTGCAGGAGTCTCTGTCTCCAGCGCTACCTG
CTGTTCTACGAGCGCTCTTCCAGGATGCAGCACCAAGAGCCAGGAGTGCAAGTCTGAAGAATGA

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ATGGACCTGGGCCCCGGGACGGGAGGGGACCGCTCGCGCCCCGGCCCCCGCGCTCCCT
GCGCGCTGTTACGCGCTTCTGTGCGCTGGCAGCCGCTACGCCCCGGGACTCACCGCCCCGGCC
CCAGCCGGACACTGTGATGGCAGCGTGAGGGGCTTCGCCCTGCGCCCCGGGCCAGTTCCAGCGGCCCC
CGGAGCCCCGGGAGGAACGCCCGGACCCAGCCCCAGCTCCAGTCCCCCGCGGATGGGGCGC
GGCGCGGGCTCAGGGCTTGAAGAACACGGCAACACTGTTTCATGAACGCGGTGGTGCAGTGTCTCAG
CAACACCGACCTGCTGGCCGAGTTCTGCGCTGGGCGCTACCGGGCGCTCCGGCCCGCGGAGTCAAC
CGAGCAGTGGCGGCTGGTGGCGCTCTGGACTCGGAATACAGCCCCAACTTTCGGGGAGTTCAAG
AATGCAGTTTCCAGTACGGCTCTCAGTTCCAAAGCAATCCAGCACGACGCCCTGGAATTCCTGTCTGTTG
CTGGATCGTGTACATGAGGACCTGGAGGTTTATCCCGAGGGCGGTGTCGGAGAAGCTTCCGCCCTGAAGCCA
CTAAACCTCTGAGAACTGCCTGTACCATCAGCTCAGCTTCTCTAGGTCAAAGCTTTGTGCAAGCCACTTC
AAGCACAATATAGATCTTCTTGAATGTCCCACTGCCTGAACAGAGCAACACTTTGATCCTTTCTGTGT
GTCCCTACCTATCCCCCTTGGCCAGACGAGGTTCTTGAAGTGTACCTTGGTCTTCCCCCTCTAAGAGCCAGCGGT

FIG. 1V

TCCTGCGGTTGGCCTGCCGTGCCGATCCTCAGCACAGTGGCAGCCCTGAGGAAGATGGTTGCAGGAAGG
 AGCGTCCCTGCAGATGAGGTGATCTTGGTTGAAGTATCCAGTGATCCAGCGGTCTTTCTTTGATGAAGA
 GGACCTGAATACCATCGCAGAGGAGATAATGTGTATGCCCTTTCAAGTTCCCTCCCTCACCCAGCGGGACTC
 TCTCAGCTCATCCACTGGGTCTGCGCCTCCCAACGCTGGCAGCCCGTGGGCCCAGCGATTCTCCCTCTCT
 CTCCACAGTGAGAGCAAGGTGCTAATCCTCTTCTGTAACTTGTGGGTGAGGCGAGCAGGCTAGCAGGTTTGG
 GCCACCCCTTCTGATAAGGGAAGACAGAGCTGTTTCTGGGCCAGCTCCAGCAGTCTATCCTCAGCAAGGTCC
 GCCATCTTATGAAGAGTGAGGCCCTGTACAGAACCTGGGGTCTCTGTTCTCCATCCGTGTTGTGGGACTCTCT
 GTGGCCTGCAGCTATTTGTCTCCGAAGGACAGTCGGCCCTCTGTCACTGGCAGTTGACAGGGTTTGCATCT
 CAGGAGGCCAGGAGCCCTCCACATGTCAAGCTGGCGGTGGAGTGGATAGCTCTGTCAAGGAGCGCCTGTTT
 GGGAGCCTCCAGGAGGAGCGCAGGATGCCGACAGTGTGTGGCAGCAGCAGCGCATCAGCAGCAC
 AGCTGTACCTTGATGAATGTTTTTTCAGTTCTACACCAAGGAGGAGCAGCTGGCCAGGATGACGCTGGAAGTG
 TCCTCACTGCCAAGTCTGCAGCAGGGGATGGTGAAGCTGAGTTGTGGACGCTGCCGTGACATCCTCATCATCC
 ACCTCAAAGTTCTGCCAGGTGGCGGAGAGAGAACAAGCTCTCCACGCTGGTGAAGTTTCCGCTCTCTGGA
 CTCACATGGCTCCCATGTGGCCAGAGAAAGCAGCCCTGAGGCAGGACTGGGCCCTGGCCCTTCCCTGGA
 AGCAGCCGGACTGCCTGCCACCAAGTTACCCGTGGACTTCTGTACGACCTGTATGCCGTCTGCAACCACCAT
 GGCAACCTGCAAGTGGCATTACACAGCCTACTGCCGAACTCTCTGATGGCCAGTGGTACAGTTATGATGA
 CAGCAGGTGGAACCGCTTCGAGAAGATGAGGTCAACACAGAGGGCTTATATCCTGTTCTATCAGAAGCGGA
 ACAGCATCCCTCCCTGGTCAGCCAGCAGCTCCATGAGAGGCTTACCAGCTCTCCCTGTCTGATCACTGGCTC
 TTACGGCTCGGAGCCACGCTGCAGCACAAAGGGGAGCCTGCTGTCTGGAGCTCTGCCCTTCCCTTCCC
 TGCCCCAGGTTCTGACTCTCCCATCTTCAACCAACAGCCTCTGCAATCAGGAAAGGAGGGTTGGAGCCCAGG
 CGTTTGTACGGGCGTGAAGGCAGAAAGCATTAGCATGAAGGCACCCACCATTTCCCGAGCCAAAGCAGGAC
 CATTCAAGACCATGCCCTCTGCGTGTCTTTGGATCCAAAGGAGAAACCAACAGGTGCCCTCCGTCGAGTTGGTG
 GAGTACTTGAATCCAGACGAAGACCTCGGTCCACGAGCCAGTCCATTGTGTGCTGTTGACGGGCACCTGCGG
 GTGAGGATGAGAAGTCAGCATCGCCGAGGTCCAACGTGCCCTTCTGTCTAACAGCGAAGATGTTGGCGGGC
 CATTGAAGAGGTCCAGCGGGTGCCCTGTCCCTCGGCTCAACCCAACTGTCTGGCCCTGGAAACTCA
 GATGGTCCAAACACAGCAAGGAACTCAAGGAAATGCAGGGCAGGACATCAAGCTTCCAGAAAGTTTGACCT
 GCCTCTCACTGTGATGCCCTTCACTGAGCATGAGAAACAGCTCGACCGAGGGCCAGAGCCATGAAGTGG
 AAGGAGAGCTTCAGATGGGAAGCAAAAGCAGCCCACTCCCTTATATGGATTCTCTGGAACAGCAAAAGA
 CAGTCGCCGAGGCACCTCTGAGCTAGACAGACCCCTGCAGGGGACACTCACCTTCTGAGGTCCGTGTTTCGG
 AAGAAGGAGAAACAGGAGGAATGAGAGGGCAGAGGTCTCTCCACAGGTGCCCTCCCTGTTGAGTGGCG
 GGCTGAGCCCTGCCATGACGGGAGGCTCCAGGCTCACCTCTGCCCTCAGGATCCAGAGGGCCTGGCCA
 GGGCCTGGCAGCCGGCTCGAGAGGGATGTCTGTCAGCCCCCAGCTCTCTCCGCTCCCTCGTAAGCCA

GCAGGGCCCGAGAGGCAGTGCACACTGCGCATGTCAAAAGGACTGTTCCAGGGAGCAGGCTTCTTATGGCAC
CTTTCAGAGAGTCAAATATCACACTCTTCTTTAGGTGAAAGAAACCTTACCGGAGTCCAGCTTTTGA

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ATGCAGCTCGTCATCTTAAGAGTTACTATCTTCTTGCCCTGGTGTTCGCCGTTCCAGTGCCCCCTGCTGCAGAC
CATAAAGGATGGGACTTTGTTGAGGGCTATTTCCATCAATTTTCTGACCAAGAGGAGTGCCTACTCTTACC
CAGGAGACACAAACACAGCTCCTGCAACAATTCATCGGAATGGACAGACCTACTTGACATGCAGATGCATGC
TCTGTACACCAAGCCCCACTGTGGGTGCTGATGGTCCGACACCTCCATCTCGCCAGGAAGATGCAAGTGG
AATAAGCACACTCTAACTTACAGGATTATCAATTACCCACATGATATGAAGCCATCCGAGTGAAGACAGTATAT
ATAATGCAGTTTCCATCTGGAGCAATGTGACCCCTTTGATATTCAGCAAGTGCAGAATGGAGATGCAGACATCA
AGGTTTCTTCTGGCAGTGGCCCATGAAGATGTTGGCCCTTTGATGGCCAGGTGTATCTTAGGCCATGCC
TTTTACCAAAATCTGGAATCCTGGAGTTGTCCATTTTGACAAGAATGAACACTGGTCAGCTTCAGACACTGGAT
ATAATCTGTTCTGTTGCAACTCATGAGATTGGCAATCTTTGGCCCTGCAGCACTCTGGGAATCAGAGCTCCA
TAATGTACCCCACTTACTGGTATCACGACCCTAGAACCTTCCAGCTCAGTGCCGATGATATCCAAAGGATCCAGC
ATTTGTATGGAGAAAAATGTTTCATCTGACATACCTTAA

FIG. 1W

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ATGAAGGTGCTCCCTGCATCTGGCCTTGCTGTCTTCTCCTCATCATGGCTTTGAAGTTTCCACTGCAGCCCCCTCC
CTAGTTGCAGCTCCCGAGACCTGGAGGAACAACACTACCGCTCGCACAGGCGTATCTTGACAAATATTACAC
AAATAAAGAAAGACACAGATTGGTGAGATGTTGCAAGAGGAAGCAATTCATGATAAGGAAGATTAAAGGAGCT
ACAAGCGTTCTTTGGCCTCCAAGTCAACGGGAAGTTAGACCAGACCACATGAACGTGATCAAGAAGCCTCGCT
GTGGAGTTCCTGATGTGGCCAATTATCGCCTCTTCCCTGGTGAACCCAAATGGAAAAAAATACTTTGACATACA
GAATATCTAAATACACACCTTCCATGAGTTCTGTGAGGTGGACAAAGCAGTGGAGATGGCCTTGCAGGCCCTGG
AGTAGCGCCGTCCTCTGAGCTTTGTGAGAAATAACTCAGGAGAAGCGGATATTATGATATCTTTTGAATAATGGA
GATCAGGGGATTCTATCCATTCTGATGGCCCTCGGGGACTCTAGCCCATGCAATTTGCTCCTGAGAAAGGCCT
GGGAGGAGATACACATTCGACAATCCTGAGAAGTGGACTATGGGAACGAATGGTTTAAATTTGTTTACCGTTGC
TGCTCATGAATTTGGCCATGCCCTGGCCCTGGCCATTCCACAGACCCATCAGCACTGATGTACCCAACTTATAA
GTACAAGAATCCCTATGGATTCCACCTCCCAAGATGATGTGAAGGATCCAGGCATTATACGGACCTCGGAA
AGTATTCCTGGGAAGCCCACTCTGCCCATGCCCTCCATCACAAGCCATCCATCCCTGACCTCTGTGACTCCA
GCTCATCCTTTGACGCTGTGACAATGCTGGGAAGGAGCTCCTGCTTCAAGGACCGGATTTTCTGGAGACGG
CAGGTTCACTTGGGACAGGAATTCGGCCCAAGCACTATTACCAAGCTCTTCCCAAGCTCATGTCCAATGTGGA
TGCAGCTTACGAAGTGGCTGAGAGGGGCACTGCTTACTTCTTCAAGGTCCCCCACTACTGGATAACAAGAGGAT

FIG. 1X

TCCAAATGCAAGGTCTCTCGGACTATTTATGACTTTTGATTCCAAAGGCACGTGCAGCAATAGATGCTGCTG
TCTACCTCAGGGAGCCACAGAACCCCTTTCTTTGTGGAGATGAATACTACAGCTACGACGAAAGGAAAAGG
AAAATGGAAGAAAGACTATCCAAAGAATACTGAAGAAGATTTTCAGGAGTAAATGGCCAAATCGATGCTGCTGTA
GAATTAATGGCTACATTTACTTCTTTTCAGGACCAAAACATACAAGTATGACACAGAGAAGGAAGATGTGGTTA
GTGTGGTGAAATCTAGTTCTCTGGATTGGTTGCTAA

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ATGAACGTGCGCTGCAGGAGCTGGAGCTGGCAGCAACATGGTGAGTACAAACGGGCCACGCTTCGGGATG
AAGACGCACCCGAGACCCCGTAGAGGGCGGGCCCTCCCGGACGCCATGGAGGTGGATTCCAGAAAGGGA
CAAGACAGCTGTTAGGCTACGCACGCAGCTGGAGCTGCTTAGCAGGTGCCTCTCTACTGCTGGCTGCACCTG
CTTCTGGCTGCCCTGTGGCCCTAGGGTCCAGTACCACAGAGACCCATCCACAGCACCTGCCCTTACAGAGG
CCTGCATTGAGTGGCTGGAATACTCTGGAGTCCCTGGACCGAGGGGTGAGCCCTGTGAGGACTTTTACCA
GTTCTCCTGTGGGGCTGATTGAGGAACCCCTGCCGATGGGCTTCTCGCTGGAACACCTTCAACAGC
CTCTGGGACCAAAACCAGGCCATACCTGAAGCACCTGCTTGAAACACCACTTCACTCCAGCAGTGAAGCTGA
GCAGAAAGACACAGCGCTTCTACCTATCTTGCTACAGGTGGAGCGCATTTAGGAGCTGGAGCCGACCACTG
AGAGACCTCATTGAGAAGATTGGTGTGGAACATTACGGGGCCCTGGACCAAGACACTTTATGGAGGTGT
GAAGGCAGTAGCAGGACCTACAGGGCCACCCATTCTTCAACCGTCTACATCAGTGTGACTCTAAGAGTTCCA
ACAGCAATGTTATCCAGGTGACCAAGTCTGGGCTCTTCTGCCCTCTCGGGATTACTACTTAAACAGAACTGCCA
ATGAGAAAGTGCTCACTGCCATCTGATTACATGGAGAACTGGGATGCTGCTGGTGGCGGCCACCTC
CACGAGGGAGCAGATGCAGCAGGTGCTGGAGTTGGAGATACAGCTGGCCAAACATCACAGTGCCCCAGGACCAG
CGCGCGACGAGGAGAAGATCTACCACAAGATGAGCATTTCCGAGCTGCAGGCTCTGGCGCCCTCCATGGACT
GGCTTGAGTTCCTGTCTTCTTGTCTGTCACCATTTGAGTTGAGTGACTCTGAGCCTGTGCTGTATGGGATGG
ATTATTTGCAGCAGGTGTCAGAGCTCATCAACCCGACGGAACCAAGCATCCTGAACAATTACCTGATCTGGAACC
TGGTGCAAAAGACAACCTCAAGCCTGGACCGACGCTTTGAGTCTGCACAAGAGAAGCTGCTGGAGACCCCTCTAT
GGCAGTAAGAAGTCCGTGTGCCGAGGTGGCAGACCTGCATCTCCAACACGGATGACGCCCTTGGCTTTGCTTT
GGGTCCCTCTTCGTGAAGGCCACGTTGACCGCAAGCAAGAAATTGCAGAGGGGATGATCAGCGAAATCC
GGACCGCATTTGAGGAGCCCTGGACAGCTGGTTGGATGATGAGAAGACCCGCCAGGCCAAGGAGAA
AGCAGATGCCATCTATGATGATTGGTTTCCAGACTTTATCTCTGGAGCCCAAGAGCTGGATGATGTTTATGA
CGGTACGAAATTTCTGAAGATTCTTTCTTCCAAAACATGTTGAATTTGTACAACCTCTCTGCCAAGGTTATGGCT
GACCAGCTCCGCAAGCCTCCAGCCGAGACCAAGTGAGCATGACCCCCCAGACAGTGAATGCCTACTACCTTC
CAACTAAGAATGAGATCGTCTTCCCGCTGGCATCTCTGACGGCCCCCTTCTATGCCCGCAACCAACCCCAAGGCC
CTGAACCTCGGTGGCATCGGTGTGTCATGGGCCATGAGTTGACGCATGCCCTTTGATGACCAAGGGCGCGAGTA

TGACAAAGGAACCTGCGGCCCTGGTGGCAGAAATGAGTCCCTGGCAGCCTTCCGGAACCACACGGCCTGC
ATGGAGGAACAGTACAATCAATACCAGGTCAATGGGAGAGGCTCAACGGCCGACAGCCTGGGGGAGAAC
TTGCTGACAAACGGGGCTGAAGGCTGCCTACAATGCTTACAAAGCATGGCTGAGAAAGCATGGGAGGAGCA
GCAACTGCCAGCCGTGGGCTACCAACCACAGCTCTTCTTCGTGGATTGCCAGGTGTGCTCGGTC
CGCACACAGAGCTCTACGAGGGCTGTGACCGACCCACAGCCCTGCCGCTTCCGCTGCTGGGC
ACTCTCCAACTCCCGTGACTTCTGCGGCACTTGGCTGCCCTGTGCGCTCCCCCATGAACCCAGGCGAGCT
GTGTGAGGTGTGGTAG

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ATGCCGGAGAAAGGCCCTTCGAGCGGCTGCCGATGTCTCCCCCATCAACTGCAGCCTTTGCCTCAAGC
CCGACTTGCTGGACTTCACCTTCGAGGGCAAGCTGGAGCCCGCCAGGTGAGGCAGCGACTAATCAGAT
TGTGATGAATTGTGCTGATATTGATATTATTACAGCTTCATATGCACCAGAGGAGATGAAGAAATACATGCTACA
GGATTTAACTATCAGAAATGAAGATGAAAAGTCACCTTGCTTTCCCTAGTACTCTGCAACAGGTACGGGAACCT
TAAAGATAGATTTTGTGGAGAGCTGAATGACAAAATGAAAGGTTTCTATAGAAGTAAGTATACTACCCCTTCTGG
AGAGTGGCTATGCTGTGTAAACAGTTTGAGGCTACTGATGCCCGAAGGCTTTTCTTGTGGATGAGC
GTGCTATCAAGCAACTTTTGATATCTCATTTGTTGTTCTTAAAGACAGAGTAGCTTTTATCAACATGAATGTAAAT
GACCGGAAACCATAACCTGATGATGAAAATTTAGTGAAGTGAAGTTTGCCCGCACACCTGTTACATCTACATAT
CTGGTGGCATTGTGTGGTGAATATGACTTTGTAGAAACAAGGTCAAAAGATGGTGTGTGTGTGTTTAC
ACTCCTGTTGGCAAAGCAGAAAGGAAAATTTGCATTAGAGGTTGCTGCTAAACCTTGCCTTTTTATAACGACT
ACTTCAATGTTCCCTATCCTTACCTAAAATTGATCTCATTGCTATTGCAGACTTTGCAGCTGGTGCCATGGAGAA
CTGGGACCTTGTTACTTATAGGAGACTGCATTGCTTATTGATCCAAAATACTTCTTCTCATCCCGCCAGTGG
GTTGCTCTGTTGTGGGACATGAACCTTGCCCATCAATGGTTGGAAATCTTGTTACTATGGAATGGTGGACTCAT
CTTTGGTTAAATGAAGTTTTGCATCCTGGATTGAATATCTGTGTAGACCACCTGCTTCCAGAGTATGATATTT
GGACTCAGTTTGTCTGATTACACCCGTGCCAGGAGCTTGACGCCTTAGATAACAGCCATCCTATTGAAG
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GTCGAGCGCCTGGCACGCAAAATTCGGCTTCGTCAACCTGGGGCCGATCTTCCCTGACGGGAGTACTTTACCT
GCGCACCGGGCGTGTCCAGCAGTCCCTGACCCCGCACTGGGGCCACCACTGCACCTGAAGAAAAACCC

FIG. 1Y

FIG. 1Z

CAAGGTGAGTGTTCAGCAGCAGCGCTGCAGCGGGGTGAACGCTCTGTCGTGGTGCCACGGACCC
CTGGTTCTCAAGCAGTGGTACATGAACAGCGAGGCCCAACAGACCTGAGCATCTGCAGGCCCTGGAGTCAG
GGGCTGTACGGCCAGGCATCGTGGTCTCTGTGTGACGATGGCATCGAGAAGGACACCCGGACCTCTGG
GCCAACTACGACCCCTGGCCAGCTATGACTTCAATGACTACGACCCGACCCCGACCCCGCTACACCCCA
GCAAAGAGAAACCGGACCGGACCCGCTGTGCTGGGAGGTGGCCGCGATGGCCAAATGGCTTCTGTGGTG
TGGGGTGCCTTTCAACGCCCGAATCGGAGCGGTACGGATGCTGGACGTTACCATCACCGATGTCATCGAGGC
CCAGTCGCTGAGCCTGCAGCCGAGCAGCATCCACATTTACAGCGCCAGCTGGGTCCCGAGGACGACGGCCG
CACGGTGAGCGCCCGCATCTCACCCGCGAGGCCCTCCGGCGTGGTGTACCAAGGCCCGCGGGGCT
GGCAGCGCTCTTCACTGGCCCTCGGCAACGGCGGCTGCACTACGACAACTGCAACTGCGACGGCTACACC
AACAGCATCCACACGCTTTCGCTGGCAGCACACCCAGAGGCCGCGTGCCTGTGTACAGCGAAGCCTGCG
CCTCACCCCTCACCACTACAGCAGCGGCGTGGCCACCGACCCCGACATCGTCACACGGACCTGCATCA
CGGTGCACAGACGACACGGGACCTCGGCTCAGCCCTCAGCCGCGGCGCATGATGCCCTAGCGCT
GGAGGCCAACCGTTCTGACGTGAGAGACATGCAGCACCTGGTGTCCGCGTCCAAAGCCGCGCACCT
GCAGGCCGAGACTGGAGACCAACGGCGTGGGCGCCAAAGTGAGCCATCACTACGGATACGGGCTGCTGGA
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CCAGAGCCGCCACCCCATCTGCCGCTGATCTACATCAGGGAACGTATCGCCTGCGCCGCGCTCCAC
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GAGAACAGGGCTACTATTTCAACACGGGACGTTGTACCGCTACACGCTGCTCTATGGACGGCCGAGG
ACATGACAGCGGCTACAGCCCCCAGGTGACCAAGCGCGTGTGTGACGGGACACAGAGGGCTGT
GCCAGGCGTGTACGGCCCGCTACATCCTGGGACAGCTCTGCCCTGGCCTACTGCCCCCGGGTTCTTCAA
CCACACAAGGCTGGTACCGCTGGGCTGGGCACACGGCGCCCGCTGAGGGTCTGCTCCAGCTGCCA
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CAGCAGCAGGGCTCCTGCATGGGACCCACCAACCCCGACAGCCCGCCGCTTAGAGCTGCCGCTGTCCC
CACCACCGCTGCCAGCCTCGGCCATGGTGTGAGCCTCCTGGCCGTGACCCCTCGGAGGCCCGCTCTGC
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GGCTGCCAGCTGGAACCTGA

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CGCACTGCTTCCAAAAGCACTACTATCCCTCCGAGTGGACGGTCCAGCTGGCGAGCTGACTTCCAGGCCAACT
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 CGAGTCTTCCACCTTCAACTTCGTGCACCCGCGGACTGCTGGTGACCGGCTGGGGTTAATCAGCCCCAGT
 GGCACACCTCTGCCACCTCCTTACAACCTCCGGGAAGCACAGGTACCATCTTAAACAACACAGGTGTAATTAC
 CTGTTTGAACAGCCCTCTAGCCGTAGTATGATCTGGGATTCATGTTTGTGCTGGTGTGAGGATGGCAGTGTA
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 GAGCTGGGAATGAGCTGGGTCAACCCAAATCGGCCCTGGTGTCTACACCAACATCAGTGTACTTCCACTGGA
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 CGCTCAGCGTGCCTGTGGACAGCGTGGCCCCGGCCCCCAAGCCTCAGGAGGCAACACAGTCCCTGGCGA
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 TGGGGCCTGAAGCAGCTCATCTGTCATGGAGCCTACACCCACCTGAGGGGGGCTACGACATGGCCCTCCTGC
 TGCTGGCCCCAGCCTGTGACACTGGGAGCCAGCCTGCGGCCCTCTGCCTGCCCTATCCTGACCACCACTGCC

FIG. 1BB

TGATGGGAGCGTGGCTGGGTTCTGGACGGGCCCGCCAGGAGCAGGCATCAGCTCCCTCCAGACAGTGCC
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CCGGGATGGTGTACAGTGTGGTGAGCTGCCAGCTGTGAGGGCTGTCTGGGACCACTGGTG
CATGAGGTAGGGGCACATGTTCTTCCGGGCTGCACAGCTTCGGAGATGCTTGCCAGGCCCGCCAGG
CCGGCGGTCTTACCGCGCTCCCTGCCTATGAGGACTGGGTACGAGTTTGACTGGCAGGTCTACTTCGCCG
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GCGCCCGTGGCGCGCTCGAGCCCTGCAGGTCTCGCTTTCAACGGCTCTCGTTCACACTGCGCGG
GTGCTCTGGTGACCAAGTGGGTGCTGACGGCCGCGCACTCGGAAACAAGCCACTGTGGCTCGAGTAG
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CACCAGGCTCAGGCCCATCTGCCAAGCGAAGGATGAGCACGATCTCATGTTGCTAAAGCTGCCAGGC
CCGTAGTCCGGGCCCGCTCCGGCCCTGCAGCTTCCCTACCGCTGTGCTCAGCCCGAGACCAGTGCC
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TATCCTGAGCCCTAAAGAGTGTGAGTCTTCTACCCCTGGCGTGGTCAACAACATGATATGTGCTGACTGG
ACCGGGGCCAGGACCTTGCCAGAGTGACTCTGGAGGCCCTGGTCTGTGACGAGACCTCCAAGGCATCCT
CTCGTGGGTGTTTACCCCTGTGGCTCTGCCAGCATCCAGCTGTCTACACCCAGATCTGCAATAACATGTCTCT
GGATCAATAAAGTCATACGCTCCAAGTGA

FIG. 100

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TGGTGGTGGTCTGACAGCCGCACACTGCTTCCGAAGAACCTATTAGACATGGCCGTGTAATGTCACTGT
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GGGTATGACCAATATGATGACTTAACATGCACCTGGAAAGCTGAGAGTGGTGAGATTAGCCGGAAAGAATG
TGCCAAGAGGGTAACCAAGCTGTCCAGGAACATGATTGTGCTTGGAACGAAACCAAGGACCAATGGCAGGGC
CCAGGAGAGTAGGGGGCTCTGTTTGCAGAAAGCAACATGTTACCAAGCTGGTATTCAG
CTGGGTGTGGCTGTGGCCAGAAACATGCCTGGAGTGTACACCGAGTTGTCCAATTATCTGCTTTGGATCG

FIG. 1DD

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TGGCCATCCTGTACTGTATTTTGTGATGCTTCTATTATCCT

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GAGGCAGATGCTAAGATGATGTTAAATACAGTGTGTGCATCGAATGCCAGAAAGAACTCCCAACTCCAGCCT
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GAGAGAGCGAAGGTGGGAGAAAGAAATACTGGCCGGGTGAGAGGATTGCCGAAGGAGGCCTTCT
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GTTTGCAGTGTGCCAGCAATCCAATGATCTCTTTACCAATACTGCGATGCTGAGTCGGCTCCACCGGTTT
GGGGTCTATCTGCGTCTGAAGATCCAGACAAAGAAATTGGAAGCGCAAAATCATTCGGTCTACTCAGGGC
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TGTGCTGCGCCTAGTCCAGCCCGCAGCCTGAACCCCGGAGTGCGCCCGCGGTGCTACCCACGCGTTGCC
CCACCCGGGGAGGCCTGTGTGTCTGGCTGGGGCCTGGTGTCCCAACGAGCCTGGGACCGCTGGGAG

FIG. 1EE

CCCCGGTCAAGTGAGTCTCCAGATACGTTGCATTGTGCCAACATCAGCATTAATCTCGGACACATCTTGTGA
 CAAGAGCTACCCAGGGCCCTGACAAACACCATGGTGTGTGAGGCGGAGGCGAGGCGAGGCGAGAAATCCTG
 TGAGGTGACTCTGGGGACCCCTGGTCTGTGGGCATCCTGCAGGCATTGTCTCTGGGTGACGTCCCT
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 GAGGAACTGA

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 TCTGTAGGCGGTCGATTATCAAAATCTCATGTTATCAAAATTAAGTCCAGATGAACAAGGTGTGGATATTTTATAG
 TGCTCATATTTTCGATACCCATCTACTGATAGTGTGAACAAATCAAGAAATAATGAAAAGGCTTTATATCAAAGT
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 CTTCAAACATGCCATTACAGCATCCTCTTCTACTCAAAGAAATGTCCAAGGAAGGGAACAGCTATGGAAGGGG
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ATGGCTGCTCAGCAGCTCACTGCTTTTGAAAAATAAGACCCAACTCAATGGATTGCTACTTTTGGTGCAAC
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GATAACTCCAGGAATGTTATGTGCTGATTATGGAAGGAAAAATAGATGCATGTAAAGGAGATTCTGGTGGACC
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CCAAAGAAATGGAATGTTATTTAAGTAACCCACAACACAGTCAATATCAAGAATGTTATAATTCAAGAAAACTAC
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GAGGCAGATGCGAGAGTCATCACATCTGGAATGTTGTGTCGGGTTCTTGAGCCACGTGTGATGCCTGCC
AGGTGACTCTGTTGGACCACTGTTGTTACAGATTCTAAAGGCATCCTTGCTAAAGGTTCCCTGCTGCTGATTGA
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GTTTAGAGTGCAGGTGGGCGAGCTGAGGCTCTATGAGGACGACGAGGAGGTTGAGATCGTCCGT
CACCCCCAGTACAACGAGAGCCTGTCTGCCAGGGCGGTGCGGACATCGCCCTGCTGAAGCTGGAGGCCCCG

FIG. 1FF

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 GCTGCGCTCAGGTTAAGAAGCCGGCGTGTACACGCGCATCACAGGCTAAGGGCTGATCCTGGAGATCAT
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 GTGCTGGTGCGAGAGGTGGCTGTCTGGCGGCGCACTGCTTCGACGTCTACGGGACCCCAAGCAGTGG
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 AGCTGTGACGCGGTGAGCCCGGGGGATCGGCGCGCCCGTGTGCTGCCCGAGAGCCCGAGAGCCCC
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CGCAGGAGCTGCTCGGGCTCGTCCGGAGCTCGGGCCCTGGCCCGCCCTGGCTCTCCCCGCTCCAGCG
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 TCCGAAGCGGAGCGCGGAGAGCAAGCGCTGCCCTGGCTGGAGCCCTGCGACAGAAGT
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 GTCTTGCAGATCTGGCTCCAAGACACTGACCGGGCTTTTCAGAGCCTGGTGGGGCAGGCTTGGGGG
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 TTGAAGAATAATCCACTCTCCTGGACTATTATTGCTGGGACCATGACAGAAACCTGAAGGAATCAACAGAGCAG
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FIG. 1MM

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CGGAGGTGACGTGGCCCTGGTGCAGCTGAAGACCCGCATTGTGTTTTCTGAGTCCGTGCTCCCGTTTGCCTTG
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CCAACCCCTGTACCCCTGGAGTGTATGCCAGTGTTCCTATTCTCAAAATGGATATGTGATAACATAGAAATCAC
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FIG. 100

ACATTTTCAGTCGCAATCTTGAGGAAGCCAAAGTGAGAGGGTTCCCTATCCCTGGCAGGTATCTCTGAAACAAA
 GGCAGAAAGCATATTTGTGGAGGAAGCATGGTCTCACCACAGTGGTGATCAGGGGGCTCACTGCATTGCAAAAC
 AGAAACATTGTGTCTACTTTGAATGTTACTGCTGGAGAGTATGACTTAAGCCAGACAGACCCAGGAGCAAACT
 CTCACATTTGAAACGTGCATCATACATCCACATTTCTCCACCAAGAAACCAATGGAATGATATTTGCCCTTTTGAA
 GATGGCTGGAGCCTTCCAAATTTGGCCACTTTGTGGGCCCCATATGTCTCCAGAGCTCGGGAGCAATTTGAGG
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 GACCTTTCTTTGCACAGGTTTTCTGATGGAGGAGAGACGCATGTCAGGGAGATTACAGAGGTTCACTCATGT
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 CAGGAGTTCAAGACCAAGCCTAGGCAACAAGTGAGACTCTGTCTCACAAATAATTTCTCAAAAATAGCCGG
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 CAGTTTTTCCACCTAGATGTTGAGTCTTGTCAACACAGTTACCTGTCAATGTATTTTAGAAGACAGACCCATT
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 GATGTCCCAACCCCTGTGTGCTGAGCCCTCCAGCATCATGTCTCATCAGCTTCCATTACAGATGAAACGGGACCTG
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 GAGTCAATGTTTCTGGAGACATGA

FIG. 1P P

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 GATTACCGGATCCTGCTTGGGTATGACCAGCAAGCCATCCACAGAGCACAGCAAGCAGATGACAGTGAATAA
 GATCATGGTGACGCTGACTATAACGAGTTGCACCGCATGGGAGTGACATCACCTGTCTGAGCTGCACCATC
 ATGTGGAATTCAGCTCCACATCCTCCCGCTGCCCTCCGGAACCAACACAGTGGCTGGCCCTGACAGCTCC
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 GGTGGGTGTCATGGACAACACTGTCTGCGGATCCTTTTCCAGCCCCAGTACCCCGGCCAGCCAAGCAGCAGTG
 ACTACACCATCCACGAGGACATGCTGTGCGCTGGGACCTCATACAGGAAAGGCCATTGCCCAGTGAACCTCC
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GGAGCCTG

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CACCAAAAGACCCATTGGCAAGCCAAACCCAAAGCAATCCAAGAAAAAGTTCCCTTTTGGAAATGTACAAA
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GACAAAGGAGTCCAGGGAATTTCTTCAGTGTACGGACTGTGCAGCAAGTGATAAACCTGGTTTATACAACAT
CTGCCCTTCCAAATTTATGAGCAGTCTGTTGTCAGATGTGAGCAGCAACAACAAGCGGCTCCTTGTCC
ACTTTTGATTGTTTTGTGTCATGCCACGTGCCAAAGGCCACATCTTCTGTGAAGACTGTGTGCCGCATCTTGAA
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FIG. 1QQ

GCCCCACTGTTTTTCATGGAACAGGCTGTCAGATCCACACCCATGGACTGCACACCTCGGGATGTATGTTCAAGG
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GCAGTCTGTGGCTCCTGGCGCTGGCCGTGGCAGGCCAGCGTGGCCCTGGGCTTCGGGCACACGTGTGGGGG
CTCTGTGCTAGCGCCACGCTGGTGGTGAAGTGTGACCTGCTGCACATTTGATGCACAGTTTCAGGCTGGCCCGCTGTCCA
GCTGGCGGTTTCATGCGGGCTGTCAGCCACAGTGCCGTGAGGCCCCACCAAGGGCTCTGGTGGAGAGGA
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AACTTCTCAGACACTGTGGCGCTGTGTGCTGCCGGCCAAAGAACAGCATTTCCGAAGGCTCGCGGTGCT
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GCTACTGACCGAAGGCTGATGCATGCCAGGGAGATAGCGGGGGCCCCCTAGTGTGCCCAGATGGGGACA
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GGCTCCCTCATCGCCCCCTCTGGTCTCTCCGTGCTCAGTGTTCATGACGAATGGACGCTGGAGCCCCG
CGGCCGAGTGGTGGTACTGCTGGCGTGCACTCCAGGACGGGCCCTGGACGGCGCGCACACCCGCGCA
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GCCTACCCGCCAGCTGGGCCCGCGGTGGCTGTGCTGCTGCCCGCGCCTCACACCGCTTCGTGCAC
GGCACCGCCTGCTGGGCCACCGGCTGGGAGACGTCCAGGAGCAGATCCTTGCTCTCCCCCTGGGTGCTA
CAGGAAGTGGAGCTAAGGCTGCTGGCGGAGGCCACCTGTCAATGTCTCTACAGCCAGCCCGGTCCTTCAACC

FIG. 1TT

TCACTCTCAGATATTGCCAGGGATGCTGTGTGCTGGCTACCCAGAGGGCCGACACCTGCCAGGGTGA
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 GGGTTCAGAGCCTGGCCTGCCTTTCCACCCAGCCCAAGAGACCCAGTCAGATCCCAGGAGCCAGGGAG
 GAGAACTGCACCATTTGCCCTGCTGAGTGGGGAAGCCCCGGCCAGGGCCCTGCCCTGGAGGCCCAG
 GTGATGTCAGGATCCAGACCCCTGCCATGGGGCCTGGTGTCTGAAGCTGGTCTTGGCACCTGCCAGCT
 GCTTCTGACCCGAACAGCTCCGACAGCCACCCCGACCTCGACGCCCTGGCGCTGCTGCTGCCCTCGCG
 CCGCGCGGAGCGGTGGCGGCTGTGTCAGCACGAGAACGCTTCTGTGGACAAACGCTCGGACCTGG
 CGCTGCTCAGCTGCGACGCCCGTGAACCTGAGCGCGCTTCGCGGCCGTGTGCTACCCACCCGGAAC
 ACTACTTCTGCCCGGAGCCGCTGCCGCTGGCCGCTGGGGCCGCGGGAACCCGCGCTTGGCCAGGC
 GCGTCTGGAGCGGAGCTGTTAGCGGCTGTGTGCCACTGCCCTGTACGGCCGACAGGGCGGCAGTA
 CCGTCCCCGAGACCCCGCACGCGCTCTGCCCTGCCCTACCAGAAAGGAGGAGGTGGCAGCTGCTGG
 ACTCATGGCCCATGGATCAGCCATGTGACTCGGGAGCCTACCTGGAGGACCAGCTAGCCTGGGATTGGGGCC
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 GATCCTCTGCCCCAGCTGGTCTCTGGCAGCCACTACTGTCTCAGGCCAGGCTCTACAAAGTGCCTT
 ACATTGAAGTGATCTGGCCGGCAGGGCCAGCTCCCTCCACAGGGCCACAGGTATCCGCTTGGTCAT
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 GCCCTCCCATCAGCCCTGCCATCTGTCTCACCCGGGGTATCCCCCGGGGCCAGCTGCTGGGTGTG
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 CCGCCCACTGCTTCAGCCACAGAGACCTCCGCACTGGCCTGCTGTGCTGGCGCCCACTGCTGAGTACTGC
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CAAAGAGGACAGCACATGCATCTCACTGCCCAAGTCTGTGATGGCAGCCTGATTGTCTCAACGGCAGCGATG
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GACGTGGCGCTGCTGAGCTGACCAACCGGTGGTGGCTCGGCCGCGCTGCCCGCTGCTGCCCGCG
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TGGGCAGCAGCTTGAAGTGGCGTGGGCCAAGCCCTCTGGGATGCCCGTCCCGAGAGAAATGACCTGGTGGGCAT

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CCAGCTGCCGGGTACCTCTCTCCAGAGTGGTGGCGCCCTACCGCTGCAGCAGCGAGTGTGCA
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GTGGCGGCCACAGTCTCATCTGTGATTGCCTCAGGCTTGGGGCTAGTGTGGGCAGTGGCCCTGGCAGGT
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CCTCAGGCACCTTTCACAGGCCCTTGCCTTCCCCAGTGA

FIG. 1WW

FIG. 2A

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 GLIHMFSIGRSYEGRCFLIKLGRSRRLKRAVWIDCGIHAREWIGPAFCQWVFVKEALLTYKSDPAMRKMLNHLFYIMP
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 LMFFCM

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 WTTDRLWRKSRSPHNGTCFGTDLNRNFNASWCSIGASRNCQDQTCGTGPVSEPETKAVASFIESKKDDILCFLTM
 HSYGQLILTPYGYTKNKSSNHPEMIQVGQKAANALKAKYGTNYRVGSSADILYASSGSSRDWARDIGIPFSYTFELRD
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 LLWEAEDRQNVPRKVPNHYIAPEWFLSENATVAAETRAVIAWMEKIPFVLGGLQGGELVAYPYDLVRSPWKQEH
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 YPHESQLPEEWENNRESLIVFMEQVHRGIKGLVRDSHGKGIPIAISVEGINHDIRTANDGDYWRLLNPGEYVVTAKAE
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 QGNYGWQAGNHSFAWGMTLDEGIRYRLGTIRPSSVMNMHEIYTVLNPGEVLPATAFEASEKWPNLHIEPLDQGNCA
 GSWAFSTAAVASDRVSIHSLGHMTPLVSPQNLLSCDTHQQQCGRCGRGLDGAWWFLRRRGVSDHCYPFSGRERDE
 AGPAPPCMMHSRAMGRGKRQATAHCPNSYVNNNDIYQVTPVYRLGSNDKEIMKELMENGVPQALMEVHEDFFLYK
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 GVWGRVGMEDMGHH

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LCVAKIFIQIFPLYTAYKHNTHPTIEDISTQESNILGAFCDMNDVEVPLHLLRVVCLFCGKNGLSLMKDCFEYGTPEPLP
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KSSCGTDLNRKLESQAGICLGDSTSERNGTSSGTGKDLVFNTESLPSVDNRMRLDACSHSEDPEDHISGEMN
ATHIAQGSQESCITRTGDFLGETIGNELFNCROFIGPQHHHHHHHHGHMVDDMLSADDVSCSSSQVSAKSEK
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MWAEKELNMMKLFFDNLVYIQTVREGROKHALYSHSAEVQVRLQFLTCVFSTLGSPPDHFRLSLEQVDILWHCLVED
SECYDDALHWFLNQVRSKDQHAMGMETKYHLFLEKMPQLKPETISMTGLNLFQHLNCLARLATSAYDGCNSSELCG
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AFRRRFAYHLRQWQIEGTGISHLKALSDKQSLPLRVVCPAGLPDKMTIEMYPSPDQVADLRAEVTHWYENLQKEQI
NQAQQLQEFQSNRKGEFFGGLMGPVRMISSGHELTTDYDEKALHELGFKDMQMFVSLGAPRRERKGEVQLPA
SCLPPPQKDNIPMLLLQEPHLTTLFDLLEMLASFPPSGKVAVDSESLRCEELHLHAENLSRRVWELLMLLPTCPN
MLMAFQNISDEQSFKAQSDHRSRHEVSHYSMWLLVSWAHCCSLVKSSLADSDHLQDWLKLTLIPETAVRHESCSG
LYKLSLGLDGGDSINRSFLLAASTLLKFLPDAQALKPIRIDDYEEEPILKPGCKEYFWLLCKLVNIIHKDASQTLLDL
DALARHLADC'IRSREILDHQDGNVEDDGLTGLRLATSVVKHKPPKFSREGQEFRLDIFNLLFLLPSLKDRQPKCKS
HSSRAAAYDLLVEMVKGSVENYRLIHNWVMAQHMQSHPYKWDYWPHEDEVRAECRFVGLTNLGATCYLASTIQQLY
MIPERARQAVFTAKYSEDMKHKTTLLLEQKMFTYLMESECKAYNPRPFCKTMDKQPLNTGEQKDMTEFFTDLITKIE
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RAEKRACFKLPRIXSFNTMRYTFNMVTMMKEKVNTHFSFPLRLDMTPYTEDFLMGKSERKEGFEVSDHSHKDSSEY
EYDLIGTVHTGTADGGHYYSFIRDIVNPHAYKNNKWYLFNDAEVKPFDSAQLASECFGGEMTTKTYDSVTDKFMDFS
FEKTHSAYMLFYKRMEPEEEENGREYKFDVSSSELLEWHDNMQFLQDKNIFEHTYFGFMWQLCSCIPSTLPDPKAVS
LMTAKLSTSFVLETFIHSKEKPTMLQWIELLTKQFNNSQAACEWFLDRMADDDWWPMQILKCPNQIVRQMFQRLCIH
VIQRLRPVHAHLYLQPGMEDGSDMDTSDVEDIGGRSCVTRFVRTLLIMEHGVKPHSKHLTEYFAFLYEFAKMGEES
QFLLSLQAISTMVHFYMGTKPENPQVEVLSEEEGGEEEEEDILSLAEKRYRPAALEKMIALLVALLVEQSRSERHLTL
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FIG. 2B

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PPGMPPFASYILQRIWEVIEYNPSQCCLDWLAVQTPRNKLAHSWVLQNMENWVERFLLAHNYPRVRTSAAAYLLVSLIPS
NSFRQMFRSTRSLHIPTRDPLSPDITVWLHQVYNVLLGLLSRAKLYVDAAVHGTTKLVYPYFSFMTYCLISKTEKLMFS
TYFMDLWNLFPKLSEPAIATNHNKQALLSFWYNVCADCPENIRLVQNVPVTKNIAFNILADHDDQDVVLFNRGMPL
AYYGILRLCCEQSPAFTRQLASHQNIQWAFKNLTPHASQYPGAVEELFNLMLQFIAQRPDMMREEELEDIKQFKKTTISC
YLRLCDGRSCWTTLISAFRILLESDEDRLLVFNRLGLMTESFNTLHMMYHEATACHVTGDLVELLSIFLSVLKSTRPY
LQRKDV'KQALIQWQERIEFAHKLLTLNSYSPPEL'RNACIDVLKELVLLSPHDFLHTLVPLQHNHCTYHHSNIPMSLGP
YFPCRENIKLIGKSNIRPPRELNMCLPTMVETSKGKDDVYDRMLLDYFFSYHQFIHLLCRVAINCEKFTETLVKLSV
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VKEYRMEVPSSFSEDMNIRSQHAAEQSNNGRYDDCKEFKDLHCSKDSTLAEEESEFPST'SISAVLSDLADLRSCDG
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LAAVLEISKRDASPSLSHEDDDKPTSSPTGFAEDDIQEMPENPDTMETEKPTITELDPASFTEITKDCDENKENKTP
EGSQGEVDWLQQYDMEREREELQQAALQSLQEQAWEQKEDDLKRATELSLQEFNNSFVDALGSEDESGNE
DVFDMEYTEAEAEELKRNAETGNLPHSYRLISVWSHIGSTSSSGHYISDVYDIKKQAWFTYNDLEVSQIQEAAVQSDRD
RSGYIFFYMHKEIFDELLETEKNSQSLSTEVGKTTTRQAS

>SGPr496 1 SEQID 66

MTLLAPWYTGPMIPMDVNEPSSVTTAPTLSSSLQHISFLATGKKLSLHFGHPRECEVTRIDDKNRRRGLEDSEPGAKL
FNNDGVCCCLKRGPVNITSVCVSPRTLQISVFLSEKEYEGIVKFESDELPGVIGSNIGDAHFQEFRAGISWKPVVDP
DDPIQPFPDCCSSSSRRIPSVSVLVAVPLVAGHKGQAFIERMLGCFKELKQELTQEGPGGGHPRSAWPPRRRHAQWP

PEPCEQGEPPVVEAEVEEAETAERKVEAEAKVEGAEEAAGKAEAGKVDATKVKVETAGKVDAAAGKVETAEG
 PGRRAELKLEPEPEPVREAEQKQELEDEDENPARSGGGNSDEVPPPTLPSDPPRPDPSPRRSRAPRRRPRRPQ
 TRLRTPPQPRPPRPGRGGCLDVFAGPPGCSHVNSFKVGENWRQELRVYQCFVWCGTPETRKSKA
 KSCICHVCGTHLNRHSLSCVFFGCFTEKHIHEHAETKQHNLAVDLYYGGIYCFMCKDYVDKDIEQIAKEEQGEALK
 LQASTSTEVS HQCSVPLGEKFTWETTKPELELGHNPRRRITSSFTIGRLNLGNTCFMNCIVQALTHTPILRD
 FFLSDRHRCEMPSPELCLVCEMSSLFRELYSGNPSPHVYKLLHLVWIHARHLAGYRQQDAHEFLIAALDVLHRHCKG
 DDVGKAANNPNHCNIDQIFTGGLQSDVTCQACHGVSTTIDPCWDISLDLPGSCTSFWPMSPGRESSVNGESHIPGI
 TTLTDCLRFRTRPEHLGSSAKIKGSCSQYQESTKQLTMNKL PVACFHFKRFEHS AKQRKITYISFPLELDMTPFM
 ASSKESRMNGQLQLPTNSGNNENKYSLFAVVNHQGTLESGHYTSFIRHHKQDQWFKCDDAVITKASIKDVL DSEGYLLF
 YHKQVLEHESEKVKEMNTQAY

MRVKDPTKALPEKAKRSKRPTVPHDESDDDIAVGLTCQHVSHAISVNHVKRAIENLWSVCSECLEERRFYDGLVL
TSDIWLCLKCGFGCGKNSESHLKHFKSSRTEPHCIINLSTWIIWCYECDEKLSTHCNKKVLAQIVDFLQKHASKT
QTSAFSRIMKLCCEKCEIDEIQGGKCRNLVSRGITNLGNTCFFNAVMQNLAQTYTLTDLMEIKESSTKLKIFPSSDS
QLDPLVVELSRPGPLTSALFLFLHSMKETEGPLSPKVLFNQLCQKAPRFKDFQQDSQELLHYLLDAVRTTEETKRIQ
ASILKAFNNPTTKADDETRKKVKISTVKDPFIDISLPIIEERVSKPLLWGRMNKYRSLRETDHHDYSGNVVTIENIHPRA
AKKHSSKDKSQLIHDRKCIKRLSSGETVTYQKNENLEMNGDSLMAFSLMNSESRLNESPTDDSEKEASHSESNVDA
DSEPSESESASKQTGLFRSSSGSGVQPDGPLYPLSAGKLLYTKETDSGDKEMAEASELRLSSSTVTGDDQDFDRENQP
LNISNNLCFLEGKHLRSYPQNAFQTLSSQSYITTSKECSIQSCLYQFTSMELLMGNKNLLCENCTKNKQKYQEETSFAE
KKVEGVYTNARKQLLISAVPAVLILHLKRFHQAGLSLRKVNHRHVDPLMLDLAPFCSATCKNASVGDKVLGYLGIVEH
SGSMREGHYTAYVKVRTPSRKLSEHTTKKNVPGLKAADSESAGQWVHVSPTYLQVWPESRALSAQAYLLFYERV

MEYPVYFRSPNR^{TL}PERIWSNPL^{LV}VIAYKTVSWPRQQLAKQANKWMPFVIPS^{KT}LPWDPLELKICYQQNR^{PY}PS
PDPSNFTFLRCLNAFSA^{AV}YLPQPSWHKPEGLK^{PAG}YPRVPDIPYGS^{YT}LKSTTEAAGLHQSLPMVQL^{PL}HP^{TK}G
SALLKESELNDADWANL^{MW}KRYLEE^{QED}SKMVD^{LF}VGQMS^{YL}KCQACGYHSM^{TF}KVFFCD^{LS}L^{TI}PKKG^{FA}GGK
VSLRDCLSLFTKEE^{LE}LENAS^{GT}L^PTKSEV^{LS}TSCVP^{FT}QAAS^{TV}ATTPCASAR^{LV}VGTFTMTL^{VS}PL^NTLRDTE
GIEL^{TV}M^KALV^{LD}ILFKAS^{TD}IILFNHDSSSGN^KWR^{KL}PEPGGLEK^{HE}ELR^{PL}KEEY^{HW}LV^{VL}PL^{KL}TGSP^{HR}WR^P
RKRALASCSWCLQ^{RV}TMRRVMGVQDKAGNR^{NQ}MLL^GQRPVIG^{DT}TVSNSQ^{TT}RDKACRR^{PP}SSH^{SV}FTQSS^{FW}ACL
DPDLFFYGHQSY^{WM}KAHLND^{LI}REGP^{VT}QMAQS^{FY}WGFAGGNLSA^{LE}MLPDG^{PA}RTFLQK^{KS}CL^{FL}FSY^{ILL}H
KAGKLFQPD^{AH}GF^{LV}KKV^HAPTRGIV^FIMEPRQLGGK^{GS}L^{SK}LQ^PACALGGMNSG^{ME}PQ^{KS}AP^{EA}AGKGLAP^{PL}PVC

FIG. 2D

NLRFKLRVYKFEELWSRAGLGKSDNHSSRQMPWGAAGVACQHPCKLPRIVAEITPPKLSFGFLNTVQSSVLPTSL
SQFFLNDSPQEEAIPQSLPGSPRTNSFPKDKFVPKDKLVLSLLTMYELDRLF

>SGPr453_SEQID_69

MLAMDTCKHVGLQQLAQDHSSLNPQKWHCVDCNTTESIWACLSCHVACGRYIEEHALKHFQESSHPVALEVNEMY
VFCYLCDDYVLNDNATGDLKLLRRTLSAKSNYHCTTRSGRFLRSMGTGDDSYFLHDGAQSLLQSEDQLYTALWHR
RRLMGKIFRTWFEQSPIGRKQEEPFQEKIVKREVKKRRQEELEYQVKAELSMPPRKSLRLQGLAQSTIIIEIVSVQVP
AQTPASPAKDKVLSTSENEISQKVSQVSDSSVKRRPIVTPGVTGLRNLGNTCYMNSVLQVLSHLLIFRQCFLKLDLNQWLA
MTASEKTRSCKHPPVTDTVVYQMNECQEKDTGFCVSRQSSSLSGGASKGRKMELIQPKETSQYISLCHLHTL
FQVMWSGKWALVSPFAMLSVWRIPAFRGYAQQDAQEFLCELLDKIQRELETTGTSLPALIPTSQRKLIKQVLNVVN
NIFHGQLLSQVTCACDNKSNTEPFWDLSLEFFERYQCSGKDIAQPCLVTEMLAKFTETEALGKIYVCDQCNSKRR
RFSSKPVLTEAQQLMICHLPQVLRHLKFRFRWSGRNNREKIGVHVGFEELNMEPYCCRETLSLRPECFIYDLSAV
VMHHGKFGSGHYTAYCYNSEGGFWWHCNDKLSMCTMDEVCKAQAYILFYTQRVTENGHSLPPELLLSGQHPN
EDADTSSNEILS

FIG. 2E

>SGPr445_SEQID_70

MRVKDPTKALPEKAKRSKRPTVPHDESSDDIAVGLTCQHVSHAISVNHVKRAIENLWSVCSECLEERRFYDQQLVL
TSDIWLCLKCGFQGGKNSQSHLKHFKSSRTEPHCIINLSTWIWCYECDEKLSTHCNKKVLAQIVDFLQKHASKT
QTSAFSRIMKLCCEKCEKDEIQKGGKCRNLVSRGITNLGNTCFFNAVMOQLAQTYTLTDLMEIKESSTKLKIFPSSDS
QLDPLVWELSRPGPLTSALFLFLHSMKETEKGPLSPKVLFNQLCQKRVHLHLI

>SGPr401_1_SEQID_71

MTVRNIAICNMGTNASALEKDIGPEQFPINEHYFGLVNFNTCYCNSVLQALYFCRPFRENVLAYKAQKKKENLLTC
LADLFHSIATQKKKVGVIPPKKFISRLRKENDLFDNYMQQDAHEFLNYLLNTIADILQEEKKQEKQNGKLNKGNMNEPA
ENNKPELTWVHEIFQGTLTNETRCLNCETVSSKDEDFDLSDVDEQNTSITHCLRDFSNTETLCSEQKYCYCETCCSKQ
EAQKRMRVKCLPMVLALHLKRFKYMQLRRYTKLSYRVWFPLELRLFNTSSDAVNLDRLMYDLVAVVWHCGSGPNRGH
YITIVKSHGFWLLFDDIVEKIDAAIEEFYGLTSDISKNSSEGYILFYQSRE

>SGPr408_SEQID_72

MVPGREENQLVPKEAPLDHTSDKSLLDANFEPGKKNFLHLTDKDGEPQQLLEDSSAGEDSVHDFIGPLPREGSGVST
SDYVSQSYSSILNKSETGYVGLVNQAMTCYLNLSLLQTLFMTPEFRNALYKWEFESEEDPVTSPYQLQRLFVLLQT
SKKRAIETDVTTRSGWDSSEAWQQHDVQELCRVMFDAQWKQTEQADLINELYQGKLDYVRCLECGYEGWRI

DTYDIPLVIRPYGSSQAFASVEEALHAFIQPEILDGPNQYFCERCKKKCDARKGLRFLHFPYLLTLQLKRFDFDYTTMH
 RIKLNDRMTFPEELDMSTFIDVEDEKSPQTESCTDGAENEGSCHSDQMSNDFSNDGVDGEGICLETNSGTEKISKS
 GLEKNSLIYELFSVMAHSGSAAGGHYACIKSFDEQWYSFDDQHVSRITQEDIKKTHGGSSGSGRYSSAFASSTNA
 YMLIYRLKDPARNAKFLLEVGEYPEHIKNLVKERELEEKQRQREIERNCTCKIKLFC LHPTKQVMMENKLEVHKDKTLK
 EAVEMAYKMMDL E E V I P L D C C R L V K Y D E F H D Y L E R S Y E G E E D T P M G L L G V K S T Y M F D L L L E T R K P D Q V F Q S Y K P G
 E V M V K V H V D L K A E S V A A P I T V R A Y L N Q T V T E F K Q L I S K A I H L P A E T M R I V L E R C Y N D L R L L S V S S K T L K A E G F F R S N K V
 F V E S S E T L D Y Q M A F A D S H L W K L L D R H A N T I R L F V L L P E Q S P V S Y S K R T A Y Q K A G G D S G N V D D D C E R V K G P V G S L K S V
 E A I L E E S T E K L K S L Q Q Q D G N G D S S K S T E T S D F E N I E S P L N E R D S S A S V D N R E L E Q H I Q T S D P E N F Q S E E R S D S D
 V N N D R S T S S V D S D I L S S H S S D T L C N A D N A Q I P L A N G L D S H S I T S S R R T K A N E G K K E T W D T A E E D S G T D S E Y D E S G K S
 R G E M Q Y M Y F K A E P Y A A D E G S G E G H K W L M V H V D K R I T L A A F K Q H L E P F V G V L S S H F K V F R V Y A S N Q E F E S V R L N E T L
 S S F S D D N K I T I R L G R A L K K G E Y R V K V Y Q L L V N E Q E P C K F L L D A V F A K G M T V R Q S K E E L I P Q L R E Q C G L E S I D R F R L R K
 K T W K N P G T V F L D Y H I Y E E D I N I S S N W E V F L E V D G V E K M K S M S Q L A V L S R R W K P S E M K L D P F Q E V V L E S S S V D E L R E K
 L S E I S G I P L D D I E F A K G R G T F P C D I S V L D I H Q D L D W N P K V S T L N V W P L Y I C D D G A V I F Y R D K T E E L M E L T D E Q R N E L M K K
 E S S R L Q K T G H R V T Y S P R K E K A L K I Y L D G A P N K D L T Q D

FIG. 2F

>SGPr480_SEQID_73
 M G A K E S R I G F L S Y E E A L R R V T D V E L K R L K D A F K R T C G L S Y M G Q H C F I R E V L G D G V P P K V A E V I Y C S F G G T S K G L H F N
 N L I V G L V L L T R G K D E E K A K Y I F S L F S S E S G N Y V I R E E M E R M L H V D G K V P D T L R K C F S E G E K V N Y E K F R N W L F L N K D A F
 T F S R W L L S G G V Y T L T D S D T P T F Y Q T L A G V T H L E E S D I D L E K R Y W L L K A Q S R T G R F D L E T F G P L V S P P I R P S L S E G L
 F N A F D E N R D N H I D F K E I S C G L S A C C R G P L A E R Q K F C K V F D V D R D G V L S R V E L R D M V A L L E V W K D N R T D D I P E L H M
 D L S D I V E G I L N A H D T T K M G H L T L E D Y Q I W S V K N V L A N E F L N L L F Q V C H I V L G L R P A T P E E E G Q I R G W L E R E S R Y G L Q A
 G H N W F I S M Q W W Q Q W K E Y V K Y D A N P V I E P S S V L N G G K Y S F G T A A H P M E Q V E D R I G S S L S Y V N T T E E K F S D N I S T A S
 E A S E T A G S G F L Y S A T P G A D V C F A R Q H N T S D N N N Q C L L G A N G N I L L H L N P Q K P G A I D N Q P L V T Q E P V K A T S L T L E G G R L
 K R T P Q L I H G R D Y E M V P E P V W R A L Y H W Y G A N L A L P R V I K N S K T D I P E L E L F P R Y L L F L R Q Q P A T R T Q Q S N I W N M G N V
 P S P N A P L K R V L A Y T G C F S R M Q T I K E I H E Y L S Q R L R I K E E D M R L W L Y N S E N Y L T L D D E D H K L E Y L K I Q D E Q H L V I E V R N K
 D M S W P E E M S F I A N S S K I D R H K V P T E K A T G L S N L G N T C F M N S S I Q C V S N T Q P L T Q Y F I S G R H L Y E L N R T N P I G M K G H M
 A K C Y G D L V Q E L W S G T Q K N V A P L K R W T I A K Y A P R F N G F Q Q Q D S Q E L L A F L D G L H E D L N R V H E K P Y V E L K D S D G R P
 D W E V A A E A W D N H L R R N R S I V D L F H G Q L R S Q V K C K T C G H I S V R F D P F N F L S L P M D S Y M H L E I T V I K L D G T T P V R Y G
 L R L N M D E K Y T G L K K Q L S D L C G L N S E Q I L L A E V H G S N I K N F P Q D N Q K V R L S V S G F L C A F E I P V P V S I S A S S P T Q T D F S S
 S P S T N E M F T L T T N G D L P R P I F I P N G M P N T V P C G T E K N F T N G M V N G H M P S L P D S P F T G Y I A V H R K M M R T E L Y F L S S Q
 K N R P S L F G M P L I V P C T V H T R K K D L Y D A V W I Q V S R L A S P L P P Q E A S N H A Q D C D D S M G Y Q Y P F T L R W Q K D G N S C A W C
 P W Y R F C R G C K I D C G E D R A F I G N A Y I A V D W D P T A L H L R Y Q T S Q E R V V D E H E S V E Q S R R A Q A E P I N L D S C L R A F T S E E L

FIG. 2G

GENEMYCSKCKTHCLATKKLDLWRLPPIILHILKRFQVNGRWIKSQKIVKFPRESFDPFSAFLVPRDPALCQHKPLTP
 QGDELSEPRILAREVKVDAQSSAGEEDVLLSKSPSSLSANISSPKGSPSSSRKSGTSCPSSKNSSPNSSPRTLGRS
 KGRRLPQIGSKNKLSSKENLDASKENGAGQICELADALSRGHVLGGSQPELVTPQDHEVALANGFLYEHEACGNG
 YSNGQLGNHSEEDSTDQREDTRIKPIYNLYAISCHSGILGGGHVVTYAKNPCKWYCYNDSSCKELHPDEIDTDSAY
 ILFYEQQGIDYAQFLPKTDGKKMADTSSMDEDFESDYKKYCVLQ

>SGP431_SEQID_74

MDKILEGLVSSSHPLPLKRVVRKVVESAEHWLDEAQCEAMFDLTTRLILEGQDPFQRVQVGHQVLEAYARYHRPEFES
 FFNKTFFVLGLLHQGYHSLDRKDVAILDYIHNGKLIMSCPSVLDFSLQVEVLRMVCERPEPQLCARLSDLLTDFVQCI
 PKGLSITFCQQLVRTIGHFQCVSTQERELREYVSQVTKVSNLLQNIWKAEPATLLPSLQEVFASISSTDASFEPVALA
 SLVQHIPLQMITYLIRSLTTPNVKDSMTQALCRMIDWLSWPLAQHVDTWVIALKGLAAVQKFITLIDVTLLKIELVFN
 RLWFPLVRPGALAVLSHMLLSFQHSPEAFHLVPHVWNLVHSFKNDDLPSSTAFLVQLTELIHMMYHYSGFPDLYEPI
 LEAKDFPKPSEEKILINQSAWTSQNSLASCLSRLSGKSETGKTGLNLGNTCYMNSVIAQALFMATDFRRQVLSLNL
 NGCNSLMKKLQHLFAFLAHTQREAYAPRIFFEASRPPWFTPRSQQDCSEYLRFLDLRHEEEKILKVQASHKPSEILEC
 SETSLQEVASKAAVL TETPRTSDGEKTLIEKMFGGKLRTHIRCLNCRSTSQKVEAFTDLSLAFCPSSLENMSVQDPAS
 SPSIQDGLMQASVPGPSEEPVYNPTTAAFICDSL VNEKTIGSPNEFYCSENTSVPNESNKILVNKDVQKPGGET
 TPSVTDLLNYFLAPEILTGDNQYCYENCASLQNAEKTMQITEEPEYLITLLRFSYDQKYHVRKILDNVSLPLVLELPVK
 RITSFSSLSEWSVDVDFDLSLAKKLKPSGTDEASCTKLVPYLLSSVWHSGISSESGHYYSYARNITSTDSSYQM
 YHQSEALALASSQSHLLGRDPSAVFEQDLENKEMSKWFLFNDSRVFTFTSFQSVQKITSRFPKDTAYVLLYKKQHST
 NGLSGNNPTSGLWINGDPPLQKELMDAITKDNKLYLQEQELNARARALQAASCSFRPNFGDDNDPPGSCGPTGG
 GGGGENTVGRLVF

>SGP429_SEQID_75

MAPRLQLEKAAWRWAETVRPEEVSQEHIETAYRIWLEPCIRGVCRRNCKGNPNCLVGIGEHWLGEIDENSFHNIDDP
 NCERRKKNFVGLTNLGATCYVNTFLQWFLNLELRQALYLCPTCSDYMLGDGIEEKDYEPQTICEHLQYLFALLQ
 NSNRRYIDPSGFVKALGLDTGQQQDAQEFSLFMSLLEDTL SKQKNPDVRNIVQQQFCGEYAYVTVCNQCGRESKLL
 SKFYELELNIQGHKQLTDCISEFLKEELEGDNRYFCENCQSKQNA TRKIRLLSLPCTLNQLMRVFDRTGTHKKKLN
 TYIGFSEILDMEPYVEHKGSVYVELSAVLHHRGVSAYS GHYIAHVKDPQSGEWYKFNDEIDIEKMEGKLLQLGIEEDLE
 PSKSQTRPKPGCGKGTCHSRNAYMLVYRLQTQEKPNNTTVQVPAFLQELVDRDNSKFEWCIEMAEMRKQSVDKGKAK
 HEEVKELYQRLPAGAEPEYFVSLWLQKWLDESTPTKPIDNHACLCSHDKLHPDKISIMKRISYAADIFYSRYG GPR
 LTVKALCKECVVERCRILRLKNQLNEDYKTVNNLLKAAVKGDFWVGKSSLSRWRQLALEQLDEQDGAEQSNGKM
 NGSTLNKDESKEERKEEEELNFNEDILCPHGELCISENERRLVSKEAWSKLQYFPKAPFPYSYKECCSQCKILEREG

EENEALHKMIANEQKTSLPNLFQDKNRPCLSNWPEDTDVLYVSQFFVEEWRKFVRKPTRCSPVSSVGNALLCPHG
 GLMFTFASMTKEDSKLIALWPSEWQMIQKLFVVDHVIKITRIEVDVNPSETQYISEPKLCPECREGLLCQQQRDLREY
 TQATIVYHKVVDNKKVMKDSAPELNVSSSETEEDKEEAKPDGEKDPDFNQSNNGTKRQKISHQNIAYQKQVIRRS
 RHRKVRGEKALLVSANQTLKELKIQIMHAFVAPFDQNLSIDGKILSDDCATLGTGLGPIESVILLKADEPIADYAAAMDDV
 MQVCMPEEGFKGTGLLGH

>SGPr503_SEQID_76

MLSSRAEAAAMTAADRAIQRFLRTGAARYKVMKNWGVIGGIAAALAGIYIWWGPITERKKRRKGLVPLGLNLGNTCF
 MNSLLQGLSACPAFIRWLEETSQYSRDQKEPPSHQYLSLTLHLLKALSCQEVTDDEVLDASCLLDVLRMYRWQISS
 FEEQDAHELHFVITSSLEDERDRQPRVTHLFDVHLEQQSEITPKQITCRTRGSPHPTSNHWKSHQPHFGRLTSNMV
 CKHCEHQSPVRFDTFDSLSPAAATWGHPLTLDHCLHFISSSVRDVCDNCTKIEAKGTLNGEKVEHQRTTTFVKQ
 LKLGKLPQCLCIHLQRLSWSSSHGTPLKRHEHVQFNEFLMMDIYKHYLLGHKPSQHNPKNKPNPGTLELQDGPAPT
 PVLNQPGAPKTQIFMNGACSPSLLPTLSAPMPFPLPVVDYSSSTYLFRLMAVVVHGDHMHSGHFVYRRSPPSARN
 PLSTSNQWLWVSDDTVRKASLQEVLSSSAYLLFYERVLSRMQHQSCECKSEE

>SGPr427_SEQID_77

MDLGPDAAGGGPLAPRRRRSLRRLFSRFLLAGRSRPGDSPRPQPGHCDGDGEGGFACAPGPVPAAPGSP
 GEERPPGPQQLQLPAGDGPAGPPGAQGLKNHGNTCFMNAVQCISNTDLLAEFLALGRYRAAPGRAEVTEQLAALV
 RALWTRREYTPQLSAEFKNVSKYGSQFQGNQSHDALEFLWLLDRVHEDLEGSSRGPVSEKLPPEATKTSNCLSPS
 AQLPLGQSFVQSHFQAQYRSSLTCPHCLKQSNFTDFPLCVSLPIPLRQTRFLSVTLVFPSSQRFLRVGLAVPILSTVA
 ALRKMVAEEGGVPADDEVILVELYPSGFQSFDEEDLNTIAEGDNVYAFQVPPSPSQGTLSAHLPLGLSASPRLAAREG
 QRFSLSLHSESKVLIILFCNLVSGGQQAASRFGPPFLIREDRAVSWAQLQQSILSKVRHLMKSEAPVQNLGSLFSIRVVGL
 SVACSYLSPKDSRPLCHWAVDRVLHLRRPGGPPHVKLAVEWDSSVKERLFGSLQEERAQDADSVWQQQAHHQHQH
 SCTLDECQFYTKEEQLAQDDAWKCPHCQVLQQGMVKLSLWTLPDILIHILKRFQCVGERRNKLSTLVKFPLSGLNMA
 PHVAQRSTPEAGLGPWPSWKQPDCLPTSYPLDFLYAVCNHHGNLQGGHYTAYCRNSLDGQWYSYDDSTVEP
 LREDEVNTRGAYILFYQKRNSIPPWSASSSMRGSTSSSLSDHWLLRLGSHAGSTRGSLLSWSSAPCPSLPQVPDSPIF
 TNSLCNQEKGGLPRRLVRGVKGRSISMKAPTTSSRAKQGPFTMPLRWSFGSKEKPPGASVELVEYLESRRRPRST
 SQSIVSLLTGTADEDEKSASPRSNVALPANSEGGRAIERGPAVPCPSAQPNHCLAPGNSDGNPTARKLKENAGQD
 IKLPRKFDLPLTVMPSEHEKPARPEGQKAMNWKESFQMGSKSPSPYMGFSGNSKDSRRGTSELDRLPLQGTTLT
 LRSVFRKKENRRNERAEVSPQVPPVSLVSGGLSPAMDGOAGPSPPALRIPEGLARGLSRLERDVWSAPSSRLPR
 KASRAPRGSALGMSQRTVPGEQASYGTQVRVKYHTLSLGRKKTLPESSF

FIG. 2H

>SGPr092_SEQID_78
 MQLVLRVTIFLPWCFAVPVPPAADHKGWDFVEGYFHQFFLTKEESPLLTQETQTQLLQQFHRNGTDLDMQMHHALL
 HQPHCGVPDGSSTISPGRCCKWNKHTLTIRIINYPHDMKPSAVKDSIYNAVSIWNSVNTPLIFQQVQNGDADIKVSFWQ
 WAHEDGWPFDPGPGGILGHAFLPNSGNPGVWHFDKNEHWSASDTGYNLFLVATHEIGHSLGLQHSNGNQSSIMYPTYW
 YHDPRTFQLSADDIQRHQHLYGEKCSSDIP

>SGPr359_SEQID_79
 MKVLPASGLAVFLIMALKFSTAAPSLVAASPRTRWRNNYRLAQAYLDKYTNKEGHQIGEMVARGSNSMIRKIKELQAF
 FGLQVTGKLDQTTMNVIKKPRCGVPDVANYRFLPGEKWKKNLTLYRISKYTPSMSSVEVDKAVEMALQAWSSAVPL
 SFVRINSGEADIMISFENGHDGDSYPFDGPRGTLAHAFAPGEGLGDTDFDNPEKWTMGNGFNLTVAHAEFGHAL
 GLAHS TDPSALMYPTYKYKNPYGFHLPKDDVKGIQALYGP RKVFLGKPTLPHAPHKPSIPDLCDSSSFD AVTMLGK
 ELLLFKDRIFWRRQVHLRTGIRPSTITSSFPQLMSNVDAAYEVAERGTAYFFKGPHYWITRGFMQGPRTIYDFGFP
 RHVQQIDAAVYLREPQKTLFFVGDEYYSYDERKRKMEKDYPKNTEEEFSGVNGQIDAAVELNGYIYFFSGPKTYKYDT
 EKEDVSVWKSSSWIGC

>SGPr104_1_SEQID_80
 MNVALQELGAGSNMVEYKRATLRDEDAPETPVEGGASPDAMEVGFQKQTRQLLGSRTQLELVLAGASLLLAALLGC
 LVALGVQYHRDPSTCLTEACIRVAGKILES LDRGVSPCEDFYQSCGGWIRRNPLPDGRSRWNTFNSLWDQNQAI
 LKHILLENTFNSSSEAEQKTRFYLSCLQVERIEELGAQPLRDLIEKIGGNITGPWDQDNFMFVLKAVAGTYRATPFF
 TVYISADSKSSNSNVIQDQSGFLPSRDYLLNRTANEKVLTA YLDYMEELGMLLGGRPSTREQMQQVLELEIQLANI
 TVPQDQRRDEEKIYHKMSISELQALAPSMDWLEFLSLLSPLSDSEPVVYGM DYLQQVSELINRTEPSILNNYLIW
 NLVQKTTSSLDRRFESAQEKLETLYGTKKSCVPRWQTCISNTDDALGFALGSLFVKATFDRQSKEIAEGMISEIRTAF
 EEALGQLVWMDEKTRQAAKEKADAIYDMIGFPDFILEPKELDDVYDGYEISED SFFQNNMLNLYNFSAKVMADQLRKPP
 SRDQWMTPTQTVNAYYLP TKNEIVFPAGILOAPFYARNHPKALNFGGIGVVMGHELTHAFDDQGREYDKEGNLRPW
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>SGPr303_SEQID_81
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 LVWPKDRVALSNMNVIDRKPYPDENLVEVKFARTPTSTYLVAFWGEYDFVETR SKDGVCVCVYTPVGKAEQKGF
 ALEVAAKTLPFYNDYFNVYPYLPKIDLIAIADFAAGAMENWDLVTYRETALLIDPKNSCSSSRQWVALVVGHEL AHQWF

FIG. 23

GNLVTMEWTHLWLNFGFASWIEYLCVDHCFPEYDIWTQFVSADYTRAQELDALDNSHPIEVSVGHPSEVDEIFDAIS
YKSGASVIRMLHDYIGDKVKKKTLSI

>SGPr402_1_SEQID_82

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NCNCDGYTNSIHTLSVGSTTQQGRVPWYSEACASTLTTYSSGVATDPQIVTTDLHHGCTDQHTGTSASAPLAAGMI
ALALEANPFLTWDRMQHLVVRASKPAHLQAEDWRTNGVGRQVSHHYGYGLLDAGLLVDTARTWLTPQQRKCAVR
VQSRPTPIPLIYIRENVSACAGLHNSIRSLHVVQAQLTYSRRGDLISLTPMGTSTLVAIRPLDVSTEGYNNWVF
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>SGPr434_SEQID_83

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>SGPr446_1_SEQID_84

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>SGPr447_SEQID_85

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RPDCWVTGWGLISPGTLPYPYNLREAQVTLNTRCNLYFEQPSRSMIWDMSFCAGAEAGSVDTCCKGDSGGPL
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>SGP432_1_SEQID_86

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>SGP429_SEQID_87

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VRALQLPYRCAQPGDQCQVAGWGTTAARRVKYNKGLTCSSITILSPKECEVFYPGVVTNNMICAGLDRGQDPCQSD
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>SGP428_1_SEQID_88

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>SGP425_SEQID_89

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KKSGRGQRIAEGRPSFQWTRVKNTHIPKGWARGMGMDATLDYDALLEKRAHKKKYMELGISPTIKKMPGGMHFS

FIG. 2K

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KRDA CKGDGGPLSCRRKSDGKWILTGISWGHGCGRPNFPGVYTRVSNFVPWIHKYVPSLL

>SGPr422_SEQID_109
MTLNKIKDLFAGKGQWDLAPEAEMLKPMWIAVLVLSLTVAVTIGLLVHFLVFDQKKEYYHGSFKILDQPQINNFGQSN
TYQLKDLRETTENLVYSLKMYLSFVCHSPEEDGVKVDVIMVFQFPSTEQRAVREKKIQSILNQKIRNLRALPINASSVQV
NVAMVKNGNVGP GSGAGEAPGLGAGPAWSPMSSSTGELTVQASCGKRVPLNVNRIASGVIAPKAAWPWQASLQY
DNIHQCGATLISNTWLVTAAHCFQKYKNPHQWTVSFGTKINPPLMKRNVRRFIHEKYRSAAREYDIAVQVSSRVTF
DDIRQICLPEASASFPQNLTVHITGFALYGGESQNDLREARVKIISDDVCKQPVGYGNDIKPGMFCAGYMEGIYDAC
RGDSGGPLVTRDLKDTWYLGIVSWGDNCGQKDKPGVYTQVTYYRNWIA SKTGI

>SGPr538_SEQID_110
MSLMDDQPPMEAQYAEEGPGPIFRAEPGDQQHPISQAVCWRSRMRRGCAVLGALLAGAGVGSWLLVYLCPA
ASQPISGTLQDEEITLSCSEASAEALLPALPKTVSFRINSEDFLEAQVRDQPRWLLVCHEGWSPALGLQICWSLGH
RLTHHKGVNLTDIKLNSSQEFALSPRLGGFLEEAWQPRNNCTSGQVSLRCSECGARPLASRIVGGQSVAPGRWP
WQASVALGFRHTCGSVLAPRWVVTAAHCMHSFRLARLSSWRVHAGLVSHSAVRPHQ GALVERIIPHPLYSAQNHD
YDVALRLQTALNFSDTVGAVCLPAKEQHFPKGSRCWVSGWGHTHPSHTYSSDMLQD TVVPLFSTQLCNSSCVYSG
ALTPRMLCAGYLDGRADACQGDGGPLVCPDGD TWRLVGWVSWGRACAEPNHPGVYAKVAEFLDWIHD TAQDSLL

FIG. 2Q

>SGP527_1_SEQID_111
 MARHLLPLVMLVISPIGAFQDSALSPTQEEPEDDCGRPEPSARIVGGSNAQPGTWPWQVSLHHGGHICGGSLIA
 PSWVLSAAHCFMNTNGLEPAAEWSVLLGVHSQDGLDGAHTRAVAIVPANYSQVELGADLALLRLASPASLGPV
 WPVCLPRASHRFVHGTACWATGWGDVQEAADPLPWVQVELRLGEATCQCLYSQPGFNLTLQILPGMLCAGY
 PEGRRDTCQDGGGLVCEEGRWFQAGITSGGGRNRPGVFTAVATYEAWIREQVMGSEPGPAFTQPQKT
 QSDPQPREENCTIALPEGKAPRPGAWPWEAQVMVPGSRPCHGALVSESWLAPASCFLDPNSSDSPRDLDAW
 RVLLPSRPRAERVARLVQHENA SWDNASDLALLQLRTPVNL SAASRPVCLPHEHYFLPGSRCRLARWGRGEPALG
 PGALLEALLGGWWCHCLYGRQGAAPVLPDPPHALCPAYQEEVGSCTHGPWISHVTRGAYLEDQLAWDWG
 PDGEETETQCPHTEHGACGLRLAAPVGLWPWLAEVHVAGDRVCTGILLAPGWVLAATHCVLRPGSTTVPIEV
 YLGRAGASSLPQGHQVSRVISIRLPQHLGLRPLALLELSRVEPSALPICLHPAGIPPGASCWVLGWKEPQDRVP
 VAAVVSILTQRICDCLYQGILPPGTLCVLYAEGQENRCMTSAPPLLCQMTEGSWLVGMVAVQGSRELF AIGPEEAWI
 SQTVGEANFLPPSGSPHWPTGGSNLCPPELAKASGSPHAVYFLLLLTLIIQS

>SGP542_SEQID_112
 AMGLGLRGWGRPLLTATALLPVKPPAGSWGAIIGGHEVTPHSRPMASVRFGGQHHC GGFLLRARWVWSAAH
 CFSHRDLRTGLVVLGAHVLSTAEPTQQVFGIDALTTHPDYHPMTHANDICLLQLNGSAVLGPAVGLLRPLGRARPPT
 AGTRCRVAGWGFVDFEELPPGLMEAKVRVLDPDVCNSSWKGHLTLMCLTRSGDSHRRGFC SADSGGPLVCRNR
 AHGLVSFSGLWCGDPKTPDVYTQVSAFVAWIWDVVRSSPQGPLGTTRPPGEAA

>SGP551_SEQID_113
 MPVAEAPQVAGGQGGDGEAEPEGMFKACEDSKRKARGYRLVPLFVLLASAGVLLWYFLGYKAEVMVS
 QVYSGSLRVLNRHFSQDLTRRESSAFRSETAKAQKMLKELITSTRLGTYNSSSVYSGEGPLTCFFWFILQIPEHRRRL
 MLSPEVWQALLVEELLSTVNSSAAVPYRAEYEVDPGLVILEASVKDIAALNSTLGCYRYSYVGGQVLRLLKGPDLHAS
 SCLWHLQGP KDLMLKRLLEWTLAEORDRLAMYDVAGPLEKRLITSVYGCSRQEPVVEVLASGAIMAVVWKKGLHSYY
 DPFVLSVQPWFQACEVNLTDNRDLSQGVLPSTPYFSPYSPQTHCSWHLTPSLDYGLALWFDAYALRRQKYDLPC
 TQQGWTIQNRRLCGLRILQPYAERIPVATAGITINFTSQISLTGPGVRVHYGLYNQSDPCPGEFLCSVNGLCVPACDG
 VKDCPNGLDERNCVCRA TFQCKEDSTCISLPKVCDDQPDCLNGSDEEQCEGVPCGTFTFQCEDRSCVKKPNPQC
 DGRPDCRDGSDDEEHCDGLQGPSSRIVGAVSSEGEWPWQASLQVRGRHICGGALIA DRWVITAAHCFQEDSMAS
 TVLWTVFLGKWWQNSRWPGEVSFKVSRLLHPHYEEDSHDYDVALQLDHPVRSAAVRPVCLPARSHFFEPGLHC
 WITGWALREGGPISNALQKVDVQLIPQDLCSEAYRYQVTPRMLCAGYRKGGKDACQGDGGGPLVCKALSGRWFLA
 GLVSWGLGCGRPNYFGVYTRITGVISWIIQVVT

FIG. 2R

>SGPr451_SEQID_114
 DLPPSCSPASKMRLGLLSVALLFVGSSHLYSDHYSPSGRHLRGPSPPEAASSQQAQAEAVRKRLRRRREGGAHAKDCG
 TAPLKDVLQGSRIIGGTEAQAQAWPVVSLQIKYGRVLVHVGGLVRRERWLTAAHCTKDTSDPLMWTAVIGTNNIH
 GRYPHTKKIKIAIHPNFILESYVNDIALFHLKAVRYNDYIQICLPFDVFQILDGNTKCFISGWGRTKKEGNATNIIQD
 AEVHYSREMCNRSYGGIIPNTSFCAGDEDEGAFDTCRGDSGGPLMCYLPEYKRFFVMGITSYGHGCGRRRGFPGVY
 IGPSFYQKWLTEHFFHASTQGILTINILRGQILALCFVILLATT

>SGPr452_1_SEQID_115
 SPPQPRTPDCRLQASLEALATLAPQPSDWLCFADLWFEADGAAHSMGLSSLKWAWAKPSGMPVPENDLVGIVG
 GHNAPPGKWPWQVSLRVSYHWASWAHICGGSLIHPQWVLTAAHCIFWKDTPDSIYRIHAGDVYLYGGRGLLNVSRI
 IVHPNYVTAGLGADVALLQLPGSPLSPESLPPYRLQQASVQVLENAVCEQPYRNASGHTGDRQLILDDMLCAGSEG
 RDCYGDSSGGPLVCRLRGSWRLVGVSWSGYGCTLRDFPGVYTHVQIYVLWILQQVGELP

>SGPr504_SEQID_116
 IIGGHEVTPHSRPMASVRFGGQHHC GGFLLRARWVVSAAQCFSH

>SGPr469_SEQID_117
 GDSSGGLVCELNGTWVQVGIVSWGIGCGRKGYPGVYTEVSFYKKWI

>SGPr400_SEQID_118
 MAGEQVTANVSRYPGQKTMSPFEKTFLLSYRASLLAVVTHRSNNSRGRAFESQVLPDLTAGDAADPPIPPLGPGAAL
 LKSGPFRIWQGVKTKGEEGDRDTGTAGYAFTLLLLGISGEPPEWCGRPTVSSGIASGLGASVGQWPWQVSIRQGL
 IHVCSDTLISEEWVLTVAICFPLSPHPDFQANTSSAIAVVELPSPVSPVLLICLPSSEVYLKKNTTSCWWTGWGTGI
 FQYIKRSYTLKELKVPLIDLQTCGDHYQNEILLHGVELISEAMICSKLPVGQMDQCTVRIHPSGTFRPCLPQ

FIG. 26